This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

LANE MEDICAL LIBRARY STANFORD
2 45 0412 6013

Collection of publications on skin diseases [1875]-[1883]

LANE
MEDICAL LIBRARY
SEAL OF THE LELAND STANFORD JUNIOR UNIVERSITY
1885
LEVI COOPER LANE FUND

SYCOSIS:

PRIZE ESSAY FOR 1877 OF THE BELLEVUE HOSPITAL MEDICAL COLLEGE ALUMNI ASSOCIATION.

BY

A. R. ROBINSON, M. B., L. R. C. P. AND S., EDIN.,

SPECIAL PATHOLOGIST TO THE NEW YORK CITY ASYLUM FOR THE INSANE; ATTENDING
PHYSICIAN TO THE BELLEVUE BUREAU OF OUT-DOOR POOR, CHILDREN'S
DEPARTMENT; MEMBER OF THE NEW YORK COUNTY MEDICAL
SOCIETY, OF THE NEW YORK DERMATOLOGICAL

Compliments of Dr. Robinson.

[*REPRINTED FROM THE NEW YORK MEDICAL JOURNAL,
AUGUST AND SEPTEMBER*, 1877.]

NEW YORK:
D. APPLETON AND COMPANY,
549 & 551 BROADWAY.
1877.

T36
P18

SYCOSIS.[1]

Syn.: Sycosis barbæ (Celsus): mentagra (Plenck): dartre pustuleuse mentagre, herpes pustulosus mentagra (Alibert): folliculitis barbæ (Köbner): acne mentagra: lichen menti.

Definition.—Sycosis is a non-contagious inflammatory disease of the skin, characterized by its chronic course; its limitation to the hairy parts of the body, appearing chiefly on the bearded part of the face; its appearing in the form of papules, tubercles, or pustules, and the invariable perforation of those by a hair.

History.—The name sycosis appears frequently in the works of writers during the ancient and middle periods; but though they had certainly seen cases of our sycosis, yet their description of the disease designated by them with that term bears so little analogy to the symptoms of our sycosis, that they undoubtedly included different diseases under this term. The name sycosis first appears in the works of Celsus, Paul of Ægina, and Aëtius.

---

[1] **Prize essay of the Alumni Association, Bellevue Hospital Medical College, New York, 1877.**

25888

Celsus (lib. vi., cap. iii.) describes it as an "ulcus quod a fici similitudine *σύκωσις* Græcis nominatur, quia caro in eo excrescit." The later Greeks, however (Aëtius, Paul), applied the terms *συκα* and *ογκοι σύκωδεις* to eruptions seated on the eyelids, as well as to the sycosis of Celsus. Celsus said it appears principally on those parts of the skin covered with hairs, and especially on the bearded part of the face ("maxime in barba"); but his description corresponds so little with the characters of our sycosis, that it is unlikely he was acquainted with the latter as a distinct disease. He distinguished two varieties of the disease: the one consisting of hard or round, and the other of moist and unequal ulcers with fœtid secretion: "Sub es vero duæ sunt species. Altera ulcus durum et rotundum est; altera humidum et inequale. Ex duro exiguum quiddam et glutinosum exit: ex humido pus, et mali odoris. Fit utrumque in iis partibus quæ pilis conteguntur; sed id quod callosum et rotundum est maxime in barba: id vero, quod humidum, præcipue in capillo."

Paul of Ægina (lib. iii., cap. iii.) described it as an eruption of "round, red, somewhat hard, painful, and ulcerating tubercles of the face; and Aëtius (Tetrab. ii., serm. iv., cap. 14) mentioned it as a skin-affection, differing from acne in its greater tendency to ulceration, and in the nature of the secretion.

Plinius ("Nat. Hist.," lib. xxvi., cap. i.) described under the term "mentagra," instead of lichen, as previously used by the Greeks, a contagious disease which was brought from Asia to Italy in the reign of Tiberius Claudius by a Perusian knight, Quæstoribus Scriba, and which spread especially in Rome and its surroundings, and also, though in a less degree, in other parts of Italy, Illyria, Gaul, and Spain. According to Plinius (lib. xii., Epigr. 59; lib. xi., Epigr. 98 ad Basium, de importunis basiatoribus), it appeared especially among the rich, and owed its spread to certain social customs then prevalent. "Causing little pain, and without danger to life, it produced such hideous deformities, that death would have been preferable. With many of the subjects it did not remain confined to the chin, but occupied the entire face except the eyes, spread to the neck, breast, and hands, which it covered with hideous scales. Females were not attacked by the disease. The treatment employed was so severe, that it produced cicatrices of even greater deformity than those naturally resulting from the disease."

From this description of the nature and the results of the disease, it is clear that the mentagra of Plinius was a very different disease from our sycosis, and that it was probably of a venereal nature. It is further evident that some forms of syphilis were frequently included in the description of sycosis by those ancient writers, since they speak of the latter as appearing on the anus ("nascitur in ano"); and from the considerable resemblance of some condylomata to the pulp of a fig, it is probable that the disease referred to by them as occurring in that locality was syphilis, and probably a broad condyloma.

Galen ("De Comp. Med.," lib. v.), in speaking of acne, described fig-like tumors ("de ficosis tumoribus") and other eruptions located on the skin ("de lichenosis in mento tumoribus" and "de menti tumoribus"); his description, however, is so incomplete, that, with the exception of the localization on the chin, it could be applied to almost any disease of the skin (Hebra).

From the physicians of the Arabian school, and from those of the middle ages, we have no clear description of sycosis, it being confounded with other diseases, and especially with syphilis. Even such physicians of the seventeenth and eighteenth centuries as Mercurialis ("De Morb. Curand.," Venetiis, 1601), Lorry ("Tract. de Morbis Cutaneis," Parisiis, 1777), and Sauvages ("Nosol. Meth."), contributed nothing to the subject.

Plenck ("Doctrina de Morbis Cutaneis," Viennæ, 1783) put mentagra in the class crustæ, and said: "Est pecularis scabies circa mentum in crustas abit." He recognized four varieties: M. venerea, leprosa, infantum, and Plinii, but, from his description of the different varieties, none of them corresponded to our sycosis.

Bateman was the first writer to give us certain correct ideas of our sycosis; and the majority of authors since his time have followed him, and have applied the term to designate that disease for which Bateman, and also the writers of the present day, use the term, and whose characteristic nature I have already given you in the definition of the disease. The views of those different authors, including those of Bateman, will be given in that part of my essay devoted to a discussion of the etiology and nature of the disease. That disease, which since the time of Gruby has been called sycosis parasitaria, will be discussed in the part devoted to the differential diagnosis of the disease.

Symptoms.—Sycosis appears only on those parts of the body which are supplied with hair, and is almost always confined to the bearded part of the face; hence the name sycosis menti. Sometimes the eruption is confined to the upper lip, at other times to the side of the chin, or a part only of the submaxillary region. It has been observed on other parts of the body as well as on the face, though its appearance elsewhere is rare. The parts most frequently attacked after the bearded part of the face are the eyebrows, then the scalp, and, lastly, the other hairy parts of the body, especially the axillæ and pubis. I have seen but two cases of sycosis of the scalp, in both of which the affection was also present on the face. In one of the cases eczema of the scalp preceded and accompanied the sycosis; in the other, the sycosis invaded the scalp by extension *ex contiguo* from the beard. This latter patient had an exceedingly severe attack of the disease, producing destruction of tissue, and leaving cicatrices as extensive as in many cases of lupus. Except in such cases as this latter, in which the disease spreads *ex contiguo* from the bearded part of the face, sycosis of the scalp will be found almost always preceded by a greater or less degree of some form of inflammation of this region, and generally by an eczema. Even when seated on the face, in the majority of cases, it has been preceded by a chronic moist or dry eczema. An eczema, however, does not precede or accompany the eruption in every case; sometimes only a chronic hyperæmia is present, and in a third class of cases there is nothing abnormal to be noticed in the skin previous to the outbreak of the eruption, although an irritable condition of the tissues, insufficient to produce inflammatory changes in the part, is present. This last statement will be defended when I discuss, later on, the cause of the disease. When it appears primarily on the upper lip, it is usually preceded by a nasal catarrh, the discharge from the nose irritating the skin, and producing a congestion or an eczema, which, in its turn, is followed or accompanied by sycosis. Sycosis, situated in this region, mostly remains limited in area, and rarely extends to the cheeks. Nasal catarrh—a disease which differs from eczema only in having its seat on a mucous membrane instead of a cutaneous surface—has naturally the same effect on the tissues under the inflamed mucous membrane; consequently, sycosis is frequently combined with the nasal catarrh in those parts of the nasal mucous membrane provided with hair. Sycosis of this region differs from that of the beard only in the duration of the disease, sycosis in the nose disappearing upon cessation of the catarrh; or, in other words, the disease in that region is generally acute, disappearing upon subsidence of the catarrh, as, afterwards, there is not sufficient irritation to produce the disease; while sycosis of the beard is a chronic affection, continuing generally, unless properly treated, months, or even years.

Sycosis of the beard is generally ushered in with severe local symptoms. It is preceded or accompanied by a feeling of heat, smarting, and a painful, pricking sensation, with swelling or intumescence of the part. Sometimes the attack is so severe, and the local inflammation so great, as to produce swelling of the lymphatic glands in the neck. The eruption makes its appearance in the form of papules and tubercles of greater or less size, ranging from that of a millet-seed to that of a pea, which are isolated or collected in groups. In acute cases, and with the first outbreak of the eruption, the tubercles are generally seated near each other; but in chronic cases the local symptoms are not so severe, and the papules and tubercles are oftener isolated and fewer in number. In subsequent outbreaks new papules and tubercles appear, and, if seated in the same locality, may unite with the former ones and form connected infiltrations. This occurs only where the eruption is seated on parts thickly studded with hairs, and a considerable number of the follicles are affected by the inflammation. The eruption from a single outbreak rarely appears over a large surface, but generally in patches of limited extent; the patches in subsequent attacks often occupying a different portion of the face from that during the preceding outbreak. The papules and tubercules are of a red color, somewhat conical in shape when isolated, and generally, though not always, raised above the level of the skin. These papules and tubercles increase in size, pus collects on the summit, and afterward the greater part of the papule is gradually converted into a pustule. The length of time occupied in the transformation from papule or tubercle to pustule differs in different individuals, in the different outbreaks of the eruption on the same individual, and in the different papules and tubercles which make up a single patch. For instance, in scrofulous individuals the pus formation proceeds slower than in robust individuals, though it is more abundant; in chronic cases the papules change slower than in acute attacks; and lastly, pus collects usually more rapidly in the perifollicular region of stiff hairs than in that of fine ones. Thus it happens that, when a patient presents himself for consultation, papules, tubercles, and pustules are found present in varying proportions on the affected part; and if the eruption has already lasted several days, the majority will consist of pustules. Each papule, tubercle, and pustule, whether raised above the level of the skin or not, is perforated through its centre by a hair. The perforation of the tubercles, papules, and pustules, through the centre by a hair is characteristic of the disease, and it is upon the presence or absence of this perforation that the greatest reliance is to be made in forming a diagnosis between sycosis and the other diseases liable to be confounded with it. If perforation is not present, then the disease is not sycosis. This affords a ready explanation why sycosis is confined to the hairy parts of the body, as perforation of the papules by hairs is necessary to constitute the disease. When the tubercles and papules have become pustules, which usually occurs in from two to ten days, a scab forms on their summit, if not prevented by shaving or some emollient application, both of which would remove or prevent the formation of any scab that might otherwise form. The scabs in uncomplicated cases are generally thin, slight, and isolated, differing in this respect from those of impetiginous eczema, which are thick and form a large mass. Upon removal of the scab with the forceps, a circular funnel-shaped excavation is observed, having a hair exactly in the centre, and the base filled with pus. On account of the inflamed and irritable condition of the tissues surrounding it, great pain is caused in the extraction of the hair during the papular stage of the disease; but in that period of the pustular stage when the pus or serum which surrounds the follicle has penetrated the follicle-sheaths and separated the hair from its normal surroundings, or has destroyed those latter, as is generally the case in the pustular stage, no pain arises from extraction of the hairs, as they lie loosely in the follicle. In fact, if not extracted, the ever-increasing accumulation of pus around and within the follicle, and its subsequent movement to the surface through the space previously occupied by the hair-sheaths or the tissue immediately surrounding them, finally expels the hairs, and the part heals, with or without cicatricial tissue. The resulting cicatrices are sometimes flat, and sometimes raised above the level of the skin. If the pus has escaped through the opening of the follicle, the part will probably heal without a cicatrix forming. If, however, we do not extract the hair as soon as this can be done without causing much pain, and thus allow exit to the accumulating pus, there is danger of destruction of the follicle, and consequent permanent alopecia. If the hair remains until it lies loosely within the follicle, there is danger of the inflammatory products destroying the base of the follicle and the seat of origin of the hair. This condition of the hairs is met with only in an advanced period of the pustular stage; for during the papular stage the hairs are unchanged, and sit firmly within the follicle.

The amount of suppuration differs greatly in different subjects. In those of a strumous constitution it is much greater than in robust individuals. Sometimes the amount of suppuration and cell-infiltration in the skin is so great that complete destruction of the cutis, hair-follicles, sebaceous and sweat glands occurs, followed by cicatrices as extensive as in many cases of lupus. Such a destruction of tissue, however, rarely occurs, and the only evil result generally of even a long-continued chronic sycosis is destruction of the hair-follicle and sebaceous glands, with consequent permanent alopecia. Even this, to any considerable extent, is not a frequent occurrence; yet a limited number of follicles are usually destroyed if the suppuration has been at all extensive and epilation not performed at the proper time. When the papules are isolated, and no eczema is present, the inflammation is limited to the immediate neighborhood of the follicles. The tissue between the pustules is therefore sometimes natural; but, as a rule, there is hyperæmia or a slight dermatitis, with desquamation, especially if the pustules are not too widely separated from each other. In cases of long standing this condition of chronic dermatitis is nearly always present, and increases the irritability of the skin. The area of surface occupied by the eruption at a single outbreak varies greatly. Sometimes it is very limited; at other times, and more especially in acute cases, it can occupy the entire cheek. In chronic cases often only a few isolated pustules make their appearance here and there, unaccompanied by the heat, pain, and swelling which usher in acute attacks. When seated on the upper lip, the eruption is generally limited to a small patch, not larger than a ten-cent piece, situated near the middle line, and nearer the nasal orifices than the mouth. If the patient does not shave, such a patch appears red, somewhat swollen, and covered with a crust. Upon removal of the latter, a few papules or pustules are found, each perforated by a hair, and a slight discharge is usually present. Such a patch is generally a combination of eczema and sycosis, shows but little tendency to spread, and is exceedingly rebellious to treatment, unless the nasal catarrh, from which it usually has its origin, is previously cured.

As I have already said, the papules, tubercles, and pustules are generally isolated; but sometimes they are collected, and accompanied by infiltration in the intervening skin and subcutaneous tissue. This occurs only when the affected part is provided with numerous hairs, or in acute attacks accompanied with considerable local inflammation. When they are thus united by infiltrations, papules or tubercles no longer arise in that region as long as the infiltration exists to any considerable extent; but new pustules arise in the infiltrated tissue, and the pus, passing to the surface, becomes dried up, forming brownish or yellowish scabs, perforated with hairs. On removal of these scabs, we find underneath, as in the case of the scabs formed on isolated pustules, circular, funnel-shaped excavations, corresponding in number to that of the follicles, and each excavation is perforated by a hair. This circular, conical excavation, containing pus at its base, and perforated in its centre by a hair, is found in nearly all pustules present in this disease, whether isolated or collected, upon removal of the pus or scab from the surface. If the hair has been extracted in removing the crust—a not unfrequent occurrence, as the hair sits lightly in the follicle in this stage of the disease—then naturally it will not be seen penetrating the excavation. With this exception, however, this perforation by a hair is always present, and should be sought for in every case upon removal of the crusts or scabs, if there is any doubt about the correct diagnosis. Where the beard is allowed to grow, and the natural course of the disease is not interfered with, scales or scabs are always present during the pustular stage; but if the part is frequently shaven, their formation is prevented, though in other respects the symptoms of the disease remain unchanged. Papules, tubercles, and pustules, will be present as usual, and the perforation by a hair will be much more easily recognized than when scabs are present. When the hairs are finer, isolated papules are present, instead of tubercles and infiltrations. "Sometimes productions resembling placques muqueuses arise from the surface of the ulceration in the course of the disease, or the confluence of several deep-seated pustules may produce an abscess resembling an anthrax, having several openings on the surface. In other cases granulations appear on the surface, in the form of the caro luxurians" (Hebra, *l. c.*, p. 610). This statement of Hebra is more appropriate for cases of parasitic disease of the beard than for sycosis, since it is exceedingly rare to see such abscesses, or any granulations bearing any resemblance to the pulp of a fig, in the latter disease, while in the former they are not uncommon. Sometimes the pustular formation, especially in strumous or ill-fed persons, is so great as to produce scabs similar to those in impetiginous eczema. In chronic sycosis, or, better said, in sycosis of long standing, there is more or less induration and thickening of the affected part, from the products of the constantly-recurring inflammation. We have thus seen that the eruption in sycosis differs in appearance in different subjects, according to the general condition of the patient, whether the hairs are strong or fine, long or closely shaven, and whether the papules, tubercles, and pustules, are isolated or collected.

Sycosis is a chronic disease lasting weeks, months, or even years, and is prolonged by successive outbreaks of the eruption arising before the previous one has disappeared. These successive outbreaks occur generally at intervals of from seven to fourteen days, and the eruption follows the same course as the first outbreak; therefore the description I have already given of the primary outbreak will answer for that of the subsequent attacks. A successive attack does not always appear on the same place as its predecessor, especially in chronic cases, different parts of the face being often the seat of different outbreaks of the eruption. A notable exception to this is the case of sycosis of the upper lip, where, as I have already mentioned, the disease shows no tendency to spread, but remains confined to its original seat for months, and even years. The disease in this region, however, is a combination of eczema and sycosis, the latter having its origin in the inflammation constituting the eczema. The eczema, in its turn, is produced and continued by the irritation arising from the nasal secretion in coryza passing over the affected surface. This nasal secretion irritates only a small portion of the upper lip, and unless some portion of the remainder of the tissue of the bearded part of the face is made irritable by other means, as shaving, cosmetics, heat-rays, etc., the tissue will not be disposed to the production of sycosis, and the eruption will remain limited to the only spot irritated. This affords an explanation why sycosis of the upper lip usually remains confined to the limited area I have already described.

Generally the disease is milder in summer than in winter. If cured, it is very liable to return in a few weeks or months, and especially in autumn. If recovery takes place spontaneously, it does so by the cessation of the successive outbreaks by which it was prolonged, and by the gradual healing of the pustules, and growth of new hair from those follicles not destroyed by the suppurative inflammation. There is always complete replacement of the lost hairs by new ones, except where the follicles have been destroyed.

I have given, in the foregoing pages, the natural history of sycosis with its usually long chronic course, sometimes lasting for thirty years, and its spontaneous termination in either complete restitution of the part to its normal condition, or in general or partial alopecia; and sometimes, though rarely, in destruction of the epidermis, cutis, hair-follicles, sebaceous and sweat glands, and substitution of those structures by cicatricial tissue. Divested of its unusual characters, sycosis may therefore be briefly described as follows: It is a chronic disease, confined generally to the bearded part of the face; it makes its appearance in the form of papules or tubercles, which after a few days become pustules, and each papule, tubercle, and pustule is perforated through its centre by a hair. This eruption, after having completed the pustular stage, disappears, and is succeeded by a new eruption similar in all respects to the primary outbreak, and is in its turn succeeded by a similar eruption, and so on, so long as the disease continues to exist. Upon cessation of the disease the part regains its normal character and appearance, except a slight partial alopecia from destruction of a few hair-follicles.

Etiology and Nature.—In giving the history of the disease, I quoted not only the names of the writers previous to the time of Bateman who made use of the term sycosis, but also gave their descriptions and views of the nature of the disease referred to by them under that term. From their descriptions it follows that, if they included our sycosis under that term, they confounded it with other diseases, and especially with syphilis, since their descriptions correspond with no one special disease known to dermatologists of the present day. Since the time of Bateman, however, the majority of authors agree in the use of the term sycosis, as applied to the disease whose symptoms I have already described. I have, therefore, reserved for this part of my essay a statement of the views of those writers on the nature and cause of the disease, at the expense of leaving the part devoted to the history of sycosis incomplete, since I wished to discuss the correctness of some of them, after giving the results of my own observations, and the views I have formed from them. I will first give the views of those authors, and return to a discussion of them, when stating the conclusions I have formed from my own studies.

Bateman ("A Practical Synopsis of Cutaneous Diseases," 7th ed., London, 1829, p. 403) classed it with acne, among the tuberculæ, and accepted the two species of Celsus (Sycosis menti et capilitii). He believed it is an inflammation of the hair-follicles and sebaceous glands, and that it differs from acne indurata in its seat being exclusively on the bearded part of the face; by the softer, more numerous, and clustered tubercles, and by the ulceration which they tend to produce; also from the porrigo of Willan, by the nature of the tumors, age of the patient, and absence of contagion.

Alibert ("Précis Théorique et Pratique des Maladies de la Peau," tome i., Paris, 1818, p. 263) was the first who said that sycosis approaches acne in its nature, and treats of it under the title, Dartre pustuleuse mentagre; also Herpis pustulosus mentagra. He classed it with his species varus, which included the diseases of the sebaceous glands. He believed that the situation, the apparent similarity of cause, the course of the disease, and the age of the patient, show their close relation. He believed that it is an inflammation of the sebaceous glands and hair-follicles, caused by the use of bad razors, or from suppressed hæmorrhoidal flow. He mentioned, also, that it sometimes spreads to the mucous membrane of the mouth, where no hair-follicles exist!

Cazenave ("Abrégé Pratique des Maladies de la Peau," 4th ed., Paris, 1847, p. 312) put it in the order "pustulæ," and denied its contagious nature. Before 1841 he said it follows general inflammation of the skin, but since that time that it is an inflammation of the hair-follicles, and arises from the use of bad razors. He believed it is a pustular disease, and that any papules or tubercles present are secondary to the pustules.

Rayer ("Traité Théorique et Pratique des Maladies de la Peau," tome i., 2d ed., Paris, 1835, p. 661) classed it with the acne eruptions, and said it arises from exposure to high temperature, and from the use of bad razors.

Plumbe ("A Practical Treatise on the Diseases of the Skin," 4th ed., London, 1837, p. 91) said it is nothing more than acne, or follicular obstruction and its consequences, occurring on parts covered with hair, and differs from acne only in the existence of hair on the part, and its consequence in aggravating the disease. He gave a very good description of the disease, and was the first to recommend epilation in the treatment. He believed it to be an inflammation of the hair-follicles and sebaceous glands, and drew attention to the invariable perforation of the papules by a hair.

Bazin ("Affections Cutanées de Nature Arthrique et Dartreuse," 12th ed., Paris, 1868, p. 226) thinks there are five kinds of sycosis, viz.: Artificial, parasitic, syphilitic, arthritic, and scrofulous. He denies the existence of the microsporon mentagrophyta, and says the fungus found in the so-called parasitic sycosis is that of tinea tonsurans. The syphilitic and scrofulous varieties he regards as cases of pseudo-sycosis, because the inflammation is not limited to the hair-follicles. In true sycosis, he says, the inflammation is limited to the hair-follicle, and does not extend to the subcutaneous tissue. He believes the predisposing cause of cases of true non-parasitic sycosis is either an arthritic or scrofulous condition of system, and the exciting causes anything that irritates the skin, as cosmetics, heat, shaving with dull razors, etc.

Küchenmeister ("Die in und an dem Körper des lebenden Menschen vorkommenden Parasiten," Leipzig, 1855) said all cases of sycosis are parasitic.

Hebra ("Lehrbuch der Haut-krankheiten," Bd. i., zweite Lieferung, zweite Auflage, Erlangen, 1874, p. 605) places sycosis among the acne eruptions, of which he gives three varieties: Acne disseminata, acne mentagra seu sycosis, and acne rosacea. He says it is a local disease of the hair-follicles, the cause of which is unknown. He gives an excellent description of the disease, and always denied the existence of a parasitic sycosis. Last year, however, he saw a "typical case" of the *sycosis parasitaria* of authors, and it is probable he no longer denies its existence.

Tilbury Fox ("Skin-Diseases," 2d American edition, New York, 1873, p. 502) calls it a parenchymatous inflammation of the hair-follicles, with the ordinary results of long-continued congestion. He says it is an independent morbid state of the actual hair-follicle itself, the cause of which is doubtful, though external irritants, as shaving and long-continued exposure to heat-rays, can produce it in persons "out of health."

Nelligan ("Diseases of the Skin," 4th American edition, Philadelphia, 1864, p. 275) considered all cases of sycosis as parasitic.

Wilson ("Lectures on Dermatology," London, 1871, p. 136) says it is an inflammation of the hair-follicles. There are several varieties of the disease, and among them is observed the phytiform degeneration of the epithelium consequent on deranged development and nutrition of the tissue.

Hutchinson ("London Hospital Reports," vol. iii., 1866, p. 389) denies the existence of a parasitic sycosis.

McCall Anderson ("Eczema," 3d ed., London, 1814, cap. xii.) describes under the term eczema pilare faciei appearances which correspond exactly with those of sycosis; yet he says it differs from the latter in being simply an extension of the eczema to the perifollicular region, while sycosis consists in small abscesses and tubercles.

Baudet ("Traité des Affections de la Peau," Paris, 1869, p. 94) says it is an inflammation of the hair-follicles depending on an arthritic constitution. He believes that a sycotic eruption, whether arthritic or parasitic, can be converted into a syphilitic or a scrofulous eruption if the patient, while affected with sycosis, becomes syphilitic or scrofulous.

The other French writers, as Chausit, Rayer, Duchenne, Dupare, Gibert, Rochard, Divergie, Giubout, etc., have contributed nothing worthy of special mention.

Wertheim (*Zeitschrift der k. k. Gesellschaft der Aerzte*, 1861) made use of the microscope in studying this disease, but only with the object of confirming previously-conceived ideas of its nature and cause. He argued thus: Since a hair is always in the centre of every pustule, and pus always follows the extraction of such a hair, therefore the hair-follicle must be the seat of the inflammation. Every such follicle will therefore inclose an abscess with its sheaths, and every pustule is a metamorphosed hair-follicle. As sycosis appears but very rarely on other parts of the body than that of the bearded parts of the face, therefore the cause of the disease must be in the anatomical character of the hair-follicles of this region. Believing in those conjectures, he examined the structure of healthy hair-follicles taken from different parts of the body. From these studies he found that in the beard the hair has a greater diameter, in comparison with the diameter of its sheaths, than in any other part of the body. As the pus reaches the surface by destroying or pushing aside the external and internal root-sheaths, therefore, when the hair-follicle is inflamed, the pus has much more difficulty in reaching the surface when the hair is thick and the sheaths thin, than when the hair is thin and its compressible sheaths thick. On account of the resistance which a thick hair offers to the immediate evacuation of pus, the latter collects, and an abscess is formed.

Köbner ("Klinische und experimentelle Mittheilungen aus der Dermatologie und Syphilidologie," Erlangen, 1864, p. 13) was the first to give any description of the changes which take place in the hair in sycosis. He names the disease folliculitis barbæ, and says it has no connection with acne, but is an idiopathic inflammation of the follicle, which inflammation is the cause of the nutrition changes which take place in the hair. This inflammation may be produced by changes of temperature as well as from chemical and mechanical irritants. He examined hairs extracted in different stages of the eruption, but did not make any microscopical examination of the diseased follicles *in situ* or otherwise. The changes outside the follicle he regards as consecutive to those taking place within it. He says that first the external and then the internal root-sheaths swell, their cells become enlarged, increase in number, divide, and finally are partly transformed into pus and detritus. The hair itself is not changed at first, but later it loses its connection with the follicle, the bulbi swell two or three times their normal size, and become infiltrated with a sero-purulent fluid. According to Köbner, the primary changes therefore take place in the external and internal root-sheaths. The cause of the perifollicular inflammation, he finds, lies in the anatomical construction of the part, in its richness in blood-vessels and nerves, and the deep situation of the follicles.

Since the time of Bateman, therefore, the disease has been regarded by almost all writers as an inflammation of the hair-follicles, produced by irritating agents. Wertheim and Köbner were the only writers who studied the disease with the aid of the microscope, but they examined only hairs extracted from the part affected, and not the whole tissue affected; i. e., they did not examine the affected part itself.

In my own studies upon this subject I examined portions of skin taken from the living subject and affected with the eruption in its different stages, and have followed the process from its commencement to its termination, either in complete restitution of the parts, or in greater or less destruction of the skin of the affected region.

I will now describe the various pathological changes which take place in this disease, and show the incorrectness of the views of the authors I have quoted. I will first describe the changes which take place in a case of sycosis, uncomplicated by an eczema or dermatitis.

The first changes which take place occur around the follicle, in the peri-follicular region. The usual changes which occur in vascular connective-tissue inflammations are here met with. An increased amount of blood is sent to the peri-follicular region, and the blood-vessels of the part become dilated and filled with accumulated blood-corpuscles. Some of those escape (pass outward), and directly pus-corpuscles (previously white blood-corpuscles) are found outside the vessels, especially around the base of the follicle; but scattered corpuscles are found lying as high as its neck. Sometimes a rupture of a blood-vessel occurs very early in the disease, and a greater or less quantity of red blood-corpuscles appear in the neighborhood of the ruptured vessel. In one case the blood-vessel of the hair-papilla was ruptured, and the papilla partly filled with extravasated red blood-corpuscles (*see* Fig. 1). As occurs in any similar inflammation, the pus-corpuscles rapidly increase in number, either by the outwandering of more white blood-corpuscles from the vessels, or from division of those already outside, or by both processes combined, and soon surround the base of the follicle; while along its sides, between the fundus and the neck, the blood-vessels are much dilated, though only few pus-corpuscles are found in the tissue surrounding them (*see* Fig. 4). With this outwandering of formed elements there is the usual transudation of serum, which penetrates the tissue and the hair-follicle; but, beyond the action of this transuded fluid upon the follicle, there is not any change to be observed in the latter structure in the earli-

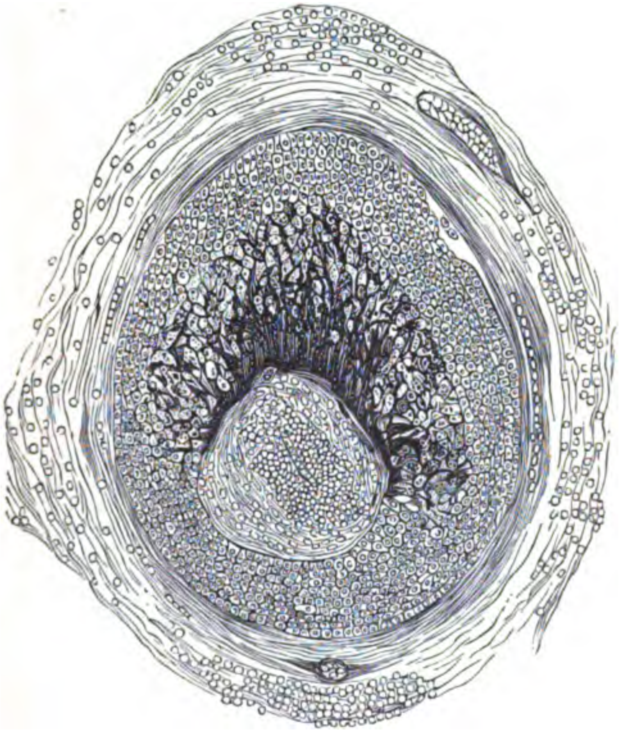


Fig. 1 is a section through the hair-bulb, on a level with the papilla, and represents the earliest stage in the disease. The blood-vessel of the papilla is ruptured, and blood-corpuscles have been extravasated. The cells forming the hair-root are still perfectly normal, but pus-corpuscles are present in the peri-follicular region. From a case of uncomplicated sycosis.

est stage of the disease. The changes, therefore, which occur during the early papular stage, take place primarily in the tissue surrounding the follicle, and show that the disease in the first stage is not a folliculitis, but a peri-folliculitis, *pure et simple.* As the inflammation proceeds and more pus and serum collects, the follicle and its sheaths become more and more affected. The latter become softened and more or less destroyed, and a portion of the surrounding pus may enter the follicle through the ruptured sheaths (*see* Fig. 2). The changes which occur within the follicle, prior to the rupture of its sheaths, are principally attributable to the increased amount of serum present. The cells of the external root-sheath become swollen, and some of the cells begin to break down. Similar changes occur simultaneously in the cells of the hair-root. Here the cells forming this part of the hair are soft, contain much protoplasm, and are therefore easily affected by external agents. They swell, the protoplasm becomes granular, their margins become indistinct, and there is evidence of commencing destruc-

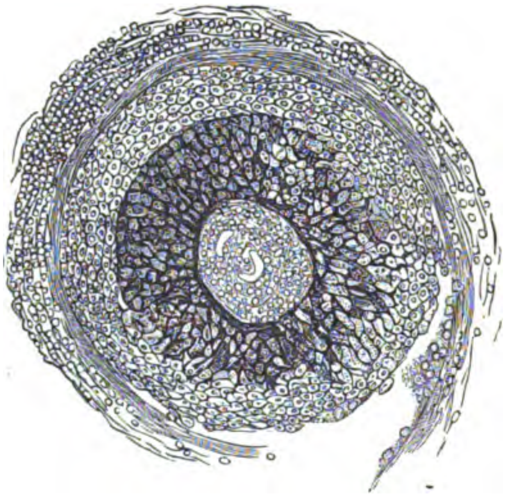


FIG. 2 represents a little later stage than Fig. 1. A large number of pus-corpuscles were present around the follicle, and the follicle-sheaths are ruptured. The cells of the hair-bulb are commencing to break down. This section is also made through the hair-root on a level with the papilla, and from a case of uncomplicated sycosis. The central part is the papilla, the next is the hair-root, and the external connective-tissue structure the follicle-sheaths.

tion. If the serum is rapidly effused, the cell bodies and their connecting substance may become indistinct, and only round bodies appear where the epithelial-like cells of the hair-root previously existed. This change occurs especially in cases complicated with acute eczema or dermatitis. After the rupture of the follicle-sheaths, or even before, the cells of the hair-root and of the external and internal root-sheaths become rapidly broken up and changed by the serum which has entered the follicle, accompanied occasionally by the pus from the blood-vessels. If pus has entered them, the hair-root is infiltrated with a sero-purulent fluid. Very frequently, however, no pus enters the follicle, and then all the changes which occur in the follicle are caused by the serum alone. The cells of the external and internal root-sheaths undergo destructive changes, the cell-bodies and connecting substance are gradually destroyed, and a granular-looking mass containing roundish bodies (the nuclei of the former cells) is formed. This change is shown in Fig. 5, which represents the changes always found in the whole length of the external root-sheath in ordinary cases of sycosis. The cells of the hair-root undergo exactly similar changes to that of the external root-sheath, and at an earlier period than that portion of the sheath seated near the surface of the skin.

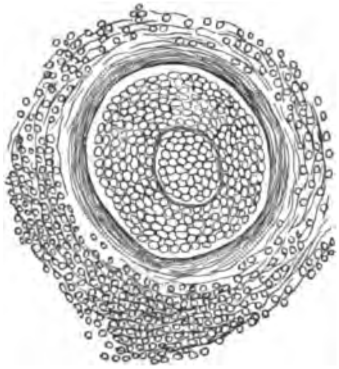


FIG. 3 is also a section from the same situation as the preceding ones, but is from a case complicated with eczema. Both the papilla and the root of the hair seem to be composed of round cells. In the papilla such is the case, but the appearance in the root of the hair is from the action of the serum on the cells of the part.

There is usually no purulent infiltration of the root; the

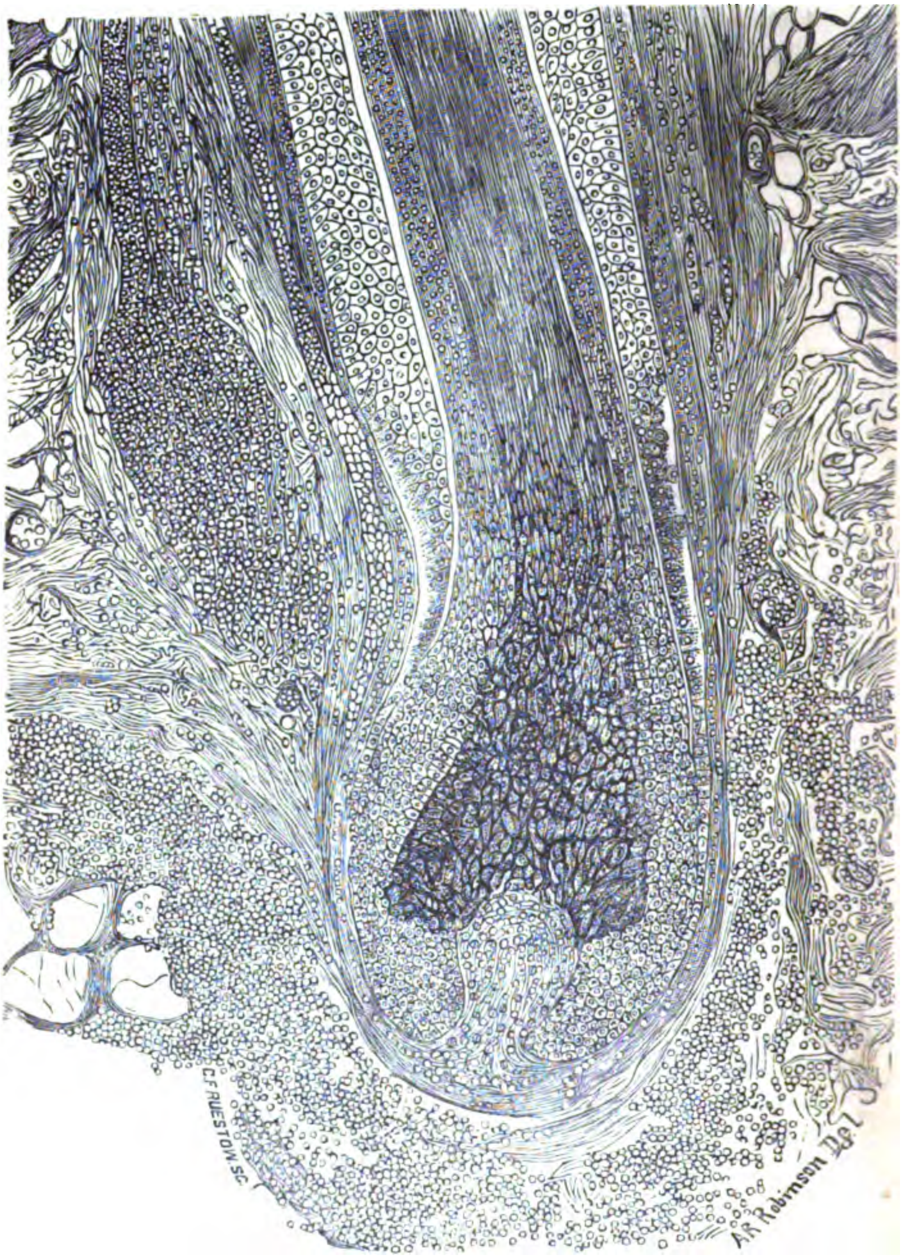


FIG. 4 shows a later stage than Fig. 2. Pus is present in great quantity outside the fundus of the follicle, and the follicle-sheaths and external root-sheath are partly broken down. Toward the neck of the follicle the changes are less and less. The cells of the root of the hair were more granular than normal, showing the commencement of the retrograde metamorphosis. This drawing shows exceedingly well the primary changes in the disease to be a peri-folliculitis.

appearance of pus-cells is deceptive; the round cells seen in the broken-down granular mass are the nuclei of the normal cells of the part. This can only be decided by sections through the hair-root, as examining the root of a hair extracted entire leads to the view that pus-cells are present in great number within the follicle. In this the pustular stage of the disease, the principal changes take place within the follicle; and, if a hair is extracted in this stage, it is found that the hair-root and the external and internal root-sheaths are broken down, and no longer possess their normal characters. The external root-sheath and the root of the hair exhibit the changes shown in Fig. 5, only that the root is more changed than the sheath.

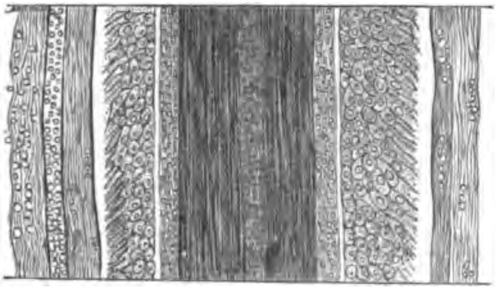


FIG. 6 represents a later period in the pustular stage. The cells of the external root-sheath and the soft parts of the hair are changed in the manner described in the text. I have here drawn only the portion of the shaft of a hair, but similar changes extend the entire length of the hair. It is in this stage, when all connection is severed between the external root-sheath and the follicle-sheaths, that the hair lies loosely within the follicle, and can be extracted easily and without producing pain.

The shaft of the hair being hard, and the serum consequently unable to act upon it, retains its normal character. As the disease progresses, the connective tissue around the follicle becomes infiltrated with pus-cells as far as the surface of the skin, and softened. If the hair is allowed to remain within the follicle until expelled by the accumulating pus, the external and internal root-sheaths and soft parts of the hair become completely destroyed, and only the hard part of the hair remains.

The follicle-sheath and the connective tissue in the perifollicular region are more or less destroyed, and the Malpighian layer becomes ruptured on a level with the upper part of the neck of the follicle. The pus reaches the surface by breaking through the Malpighian layer, and does not pass between the hair-shaft and the follicle-sheath, as mentioned by Wertheim. When the follicle-sheaths are destroyed, and there is free connection between the peri-follicular pus and the follicle, a portion of the pus does pass to the surface through the space previously occupied by the external and internal root-sheaths. In extracting a hair during the pustular stage, sometimes the follicle-sheaths accompany the hair, but generally they do not. The cells surrounding the hair-papilla, and from which the hair is formed, seem to resist the inflammatory process longer than the other cells of the bulb, a circumstance which explains why permanent alopecia is not a more frequent consequence of sycosis. The cavity left after the extraction of a hair in sycosis, in a case in which the follicle is not completely destroyed, contains pus along the entire length of its walls and at its base, and the follicle sheaths are more or less destroyed. The structures, however, forming the base of the follicle are not completely destroyed, the papilla remaining, from which a new hair will grow. In those cases in which permanent alopecia results, pus is present in the cavity as in the former case, but the follicle sheaths and the base of the follicle are completely destroyed, making it impossible for a new hair to grow, as there is no longer a papilla from which it can be formed. Such a cavity is represented in Fig. 6. Here all the follicle structures have been completely destroyed. Such a cavity becomes obliterated by new-formed connective tissue forming a cicatrix. The whole process, therefore, in simple, uncomplicated sycosis is, first, a peri-folliculitis, then the follicle elements are acted upon by the inflammatory products, and notably by the serum, which causes destructive changes in the soft parts of the hair, and in the external and internal root-sheaths, by which their cells are so acted upon that the cell-body and connecting substance are first destroyed, and a granular mass containing round bodies, the nuclei of the fixed cells of the part, results. If the process continues a length of time, the round bodies also become destroyed, and a detritus only remains. In this latter stage, only the hard, corneous part of the hair remains of the structures which previously made up the hair and its sheaths. In those cases of sycosis in which

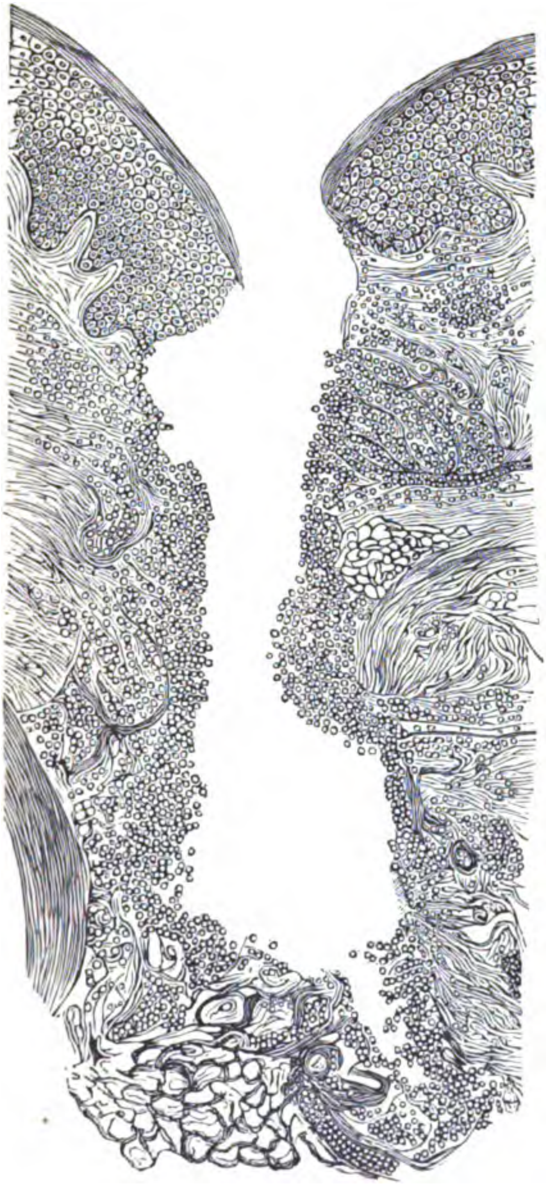


Fig. 6 shows the nature of the cavity left in the skin after expulsion of a hair in the latest stage of the disease, and where the destructive process had proceeded so far that the follicle is completely destroyed. There is no trace to be seen of any of the structures belonging to the follicle. Such destruction always produces permanent alopecia.

the inflammation extends from the surface, as when an eczema is present, the changes do not differ in any essential way from that just described, only that the external and internal root-sheaths and follicle-sheaths are acted upon in their entire length at the same time, while in simple sycosis the sheaths at the root of the hair are first affected, and the inflammation travels upward. If a general dermatitis is present, as in erysipelas, the follicle-structures become frequently changed in the same manner as in sycosis; but, as the limited peri-follicular inflammation is absent, the same clinical appearances are not presented. This is a proof that the changes within the follicle are produced from without, but it requires the peri-follicular inflammation to constitute sycosis. A hair will therefore present different appearances, according to the stage of the disease at which it is extracted. If a healthy, normal hair is extracted, it is found that the external root-sheath does not accompany it. This would also be the case in the earliest stage of sycosis, before the follicle is affected. If, however, we examine a hair extracted during the pustular stage, it will be found covered with the root-sheaths in different stages of destruction, according to the duration of the disease and the activity of the inflammation. In an early part of the pustular stage the bulb is swollen, and infiltrated with a serous, and sometimes a sero-purulent fluid. The root-sheaths will also be more or less destroyed. If the hair remains within the follicle until expelled by the accumulated pus, the destruction will have proceeded still further, the external and internal root-sheaths, and the soft parts of the hair, become destroyed, and nothing but the hard part of the hair remains intact. The sebaceous glands, being seated so near the hair, and being richly supplied with nerves and blood-vessels, may also become affected, though not at so early a stage of the disease as the fundus of the hair. Similar changes occur here to those in the cells of the external root-sheath. The endothelial cells become swollen, their margins indistinct, the protoplasm becomes more coarsely granular, and the cells become more or less destroyed. An early stage of these changes is seen in Figs. 7 and 8. The manner in which the connective tissue and its cells and the different gland elements are destroyed, differs in no respect from the process of molecular retrograde metamorphosis of the different tissues, as given in works on pathological histology, consequently is not peculiar to sycosis, and need not be here further described. The sweat-glands, when affected, show similar changes, though these structures possess considerable immunity against external agents. In Fig. 9 the cells show commencing degeneration from the transuded serum. If, however, but little serum is present, as in some cases of chronic sycosis, the cells of the sweat-glands can remain normal even when surrounded with pus.

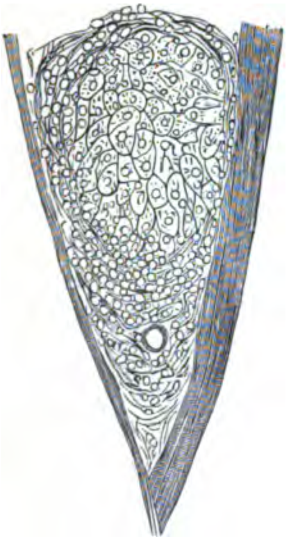


FIG. 7 represents an early stage of the changes which sometimes occur in the sebaceous glands. They become surrounded with pus, and the endothelial cells undergo the changes I have described.

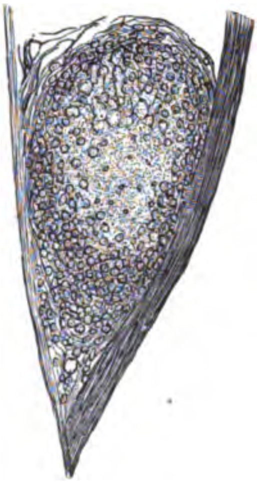


FIG. 8 shows the changes which occur in the sebaceous glands when they become entirely destroyed, as occurs in those severe cases of the disease which resemble a lupus in their results. The gland is surrounded with pus-cells, and the endothelial cells become changed to a granular mass containing fat-drops.

The changes which I have thus far described take place in cases of ordinary sycosis, and the results of the inflammation, even when of long standing, are nothing more than a temporary or permanent partial alopecia. In those severe cases, however, which resemble in their effects mild cases of lupus, the retrograde changes proceed further, and there is more or less destruction of the hair-follicles, sebaceous and sweat glands, and of the other tissues of the affected part, and healing by

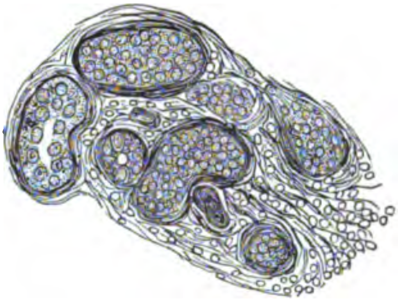


FIG. 9 gives the changes which are met with when the sweat-glands are surrounded with a considerable amount of serum.

cicatricial tissue. The inflammatory changes do not differ much from those which take place in simple sycosis; but the inflammation is more diffuse and chronic in its course. Pus collects in the epidermis and cutis, and those tissues are destroyed in the same manner as the follicle-tissue. The sweat-glands offer considerable resistance to the process, and consequently remain longer normal than the sebaceous glands (*see* Fig. 10). In Fig. 9 is shown a sebaceous gland almost

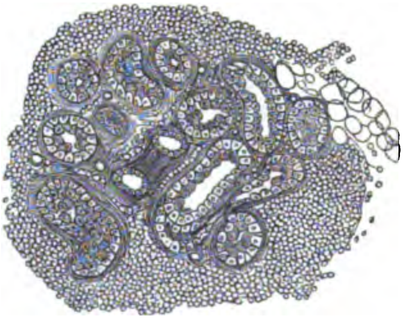


FIG. 10 shows the resistance the sweat-glands offer to pathological processes. Pus-corpuscles may be present in great number, as in this case, but, unless the quantity of serum is also abundant, the cells of the sweat-glands retain a long time their normal character.

completely destroyed by the retrograde metamorphosis. The connective tissue shows all the changes of a retrograde process, as destruction of the connective-tissue bundles and the cells and nuclei of the part.

We thus learn that, in sycosis, the first changes take place in the peri-follicular region, and that the subsequent changes which occur within the follicle are due to the inflammatory process which has its origin in the surrounding tissue. There is never any change whatever to be observed in the cell-elements proper of the follicles previous to the changes taking place in the tissue surrounding them, i. e., the disease is primarily a peri-folliculitis.

To constitute an idiopathic inflammation of the hair-follicles, the primary morbid changes must take place in the elements of the hair or its follicle. In acne the first abnormal changes are supposed to take place in the cells of the sebaceous gland, or in their secretion, and any peri-glandular inflammation that may arise is secondary, and caused by the process which has taken place within the gland. If this view of the process in acne is correct, then the disease is, properly speaking, an affection of the sebaceous glands. In sycosis, however, the peri-follicular inflammation is not caused by any process occurring within the follicle, since the elements of the latter are perfectly normal until invaded by the inflammation from without. Even then those elements do not take an active part in the inflammation, and increase, and divide, as stated by Köbner, but are simply more or less broken up and destroyed, in the manner I have already described, by the inflammatory products from the blood-vessels passing into the follicle. A study of the whole process shows, therefore, that the disease is not primarily an inflammation of the hair-follicles, as has been generally believed, but a peri-follicular dermatitis.

Etiology.—Having completed the study of the nature of the disease, I will now proceed to discuss its cause. In the majority of cases, an eczema or superficial dermatitis precedes, and is to be regarded as a predisposing cause of, the disease. Sometimes, though there is no active inflammation present, the skin is harsh, red, and irritable. A temporary superficial irritation of the skin rarely, if ever, produces sycosis of the beard, provided the skin is otherwise in a normal condition and the health of the patient good. When the hairs are not deeply seated, as, for instance, on the scalp, a superficial inflammation frequently extends to the follicular region, and produces all the changes peculiar to sycosis. In many cases of the disease, however, there has been no previous dermatitis, either of a catarrhal or other form, and even those parts of the skin situated between the pustules appear to be normal. In acute cases the eruption generally appears on limited areas, and is ushered in with pain and swelling of the part where the eruption will appear. Even when thus appearing, with acute symptoms, and on limited areas, a peri-folliculitis does not occur around every follicle situated within the affected area, but only surrounds a limited number.

In chronic sycosis the pustules are more isolated, and appear on different parts of the beard, with the same outbreak. However, whether the pustules are isolated or collected, and whether ushered in with acute symptoms or not, they do not appear continuously, but periodically, that is, the eruption appears in successive "outbreaks," with an interval of generally from seven to fourteen days between the successive attacks. I recall those clinical characters of the disease, as they will assist us greatly in studying the cause of the disease. In those cases where an eczema is present, the disease has been regarded by some writers as simply an extension of this disease to the peri-follicular region, without being influenced by anything which has occurred in the latter location. This is true of the majority of cases of blepharo-adenitis and sycosis, seated within the nose or on a part of the body such as the scalp, where the follicles lie near the surface of the skin, but such is rarely the cause of the disease when located in the bearded part of the face, where the follicles are so deeply seated. In the acute cases, when the eruption is on a limited area, the peri-folliculitis does not surround all the follicles, but only a few, and those often the deeply-seated ones, which would scarcely occur if the peri-folliculitis were simply an extension of the superficial eczematous inflammation to the deeper-lying tissue. In a case of sycosis of the scalp, once under my care, and which was preceded and accompanied by an eczema of this region, nearly every follicle of the affected part was surrounded by the inflammation, and the follicles changed. In this case, and in similar ones, the sycosis was caused by the simple extension of the eczematous inflammation, first to the peri-follicular region and then to the follicles, and it ceased to exist as soon as the eczema disappeared. The superficial situation of the hair-follicles in this region favors an extension to them of the inflammation. By the use of croton oil, a sycosis can be produced on the scalp, in which all the changes I have described as taking place around and within the follicles occur. In chronic sycosis, where eczema is frequently present, the pustules are generally isolated, and few in number. If the disease were simply an independent extension of the eczema, it is probable that a greater number of pustules would be present, that they would be more collected, that there would be more general infiltration of the skin between the pustules, and, finally, that pus would be always found surrounding the neck of the follicle as early in the disease as it appears around the base. None of those conditions, however, are present, and the absence of the last-named one is proof absolute that the peri-folliculitis is not an independent extension downward of the eczema. Such a view could not be maintained one moment for those cases of sycosis where no eczema is present.

There must, therefore, be some exciting cause why this inflammation is limited to the peri-follicular region, and attacks only a limited number of follicles, and I will now endeavor to show that the direct cause is to be found in the irritation produced by the stiff hairs of the beard on the irritable skin-tissue. In cases of chronic sycosis, the skin is in an irritable condition, and especially the peri-follicular region, on account of its rich supply of blood-vessels and nerves. Such a part, when in this condition, easily inflames when irritated, and in the hairs of the beard we have a body so stiff that they can act like so many spears on the morbidly-sensitive skin. That movement of hairs causes great pain, when the skin is inflamed or tender, is common experience, and when they are stiff, like those of the beard, they can certainly produce a peri-folliculitis when this region is already irritable, especially when we bear in mind that traction upon a hair seated in a papule which is beginning to subside is sometimes sufficient to cause active inflammation in the latter again, and to become a pustule. The hairs, however, must be stiff or they cannot sufficiently irritate hence the rarity of a peri-folliculitis around fine hairs of the beard, at any period of life, and the still greater rarity of sycosis on those parts of the body supplied with fine hairs only. An eczema may, and often does, continue on those parts of the body, and the skin is in an irritable condition, but no peri-folliculitis occurs, as the hairs are not stiff enough to inflame the tissue. The reason, also, we have isolated pustules in sycosis of the beard is, that only a limited number of hairs irritate sufficiently to produce a peri-folliculitis. It is only the older and stiffer hairs of an affected part that are surrounded with inflammation, a proof, I think, that the exciting cause of the disease is the irritation produced on the irritable tissue by those bodies increasing the condition present sufficiently to cause actual inflammation. This irritation from movement of the hairs is not sufficient to produce inflammation in a healthy individual with normal skin, or sycosis would be a more frequent disease than it is. The skin, however, does not require to be actually inflamed before the hairs can cause a peri-folliculitis around them, for, as I have already said, sycosis sometimes occurs when no dermatitis is present. It must, however, be in an irritable condition, and as it is more irritable at one period than at another, and generally at somewhat regular intervals, this explains the periodical outbreak of the tubercles and papules, as at those times less irritation from the hairs is required to produce a peri-folliculitis.

The fact of the rare occurrence of sycosis on those parts of the body covered with fine hairs, when the part is affected with eczema, or in an irritable condition, is sufficient proof that upon the nature of the hair depends the presence of the disease. Therefore, while the inflammation around the follicles may be regarded as an independent extension of the inflammation from the seat of the eczema, it can be regarded as purely such only in those cases where the hairs are so fine that they cannot produce much irritation. In this case almost all the follicles are affected, and especially those lying most superficially. Usually, however, only a limited number of follicles are affected, and those the deeper-lying ones, from which old and stiff hairs are produced. Such hairs irritate the skin at the base of the follicle, and then the inflammation can extend to this region from the surface.

But, when no actual inflammation is present previous to the appearance of the eruption, and the skin is simply irritable, the first active inflammatory changes occur around the follicles, and are brought about by the irritation from the stiff hairs. Therefore, in cases of sycosis of the beard combined with eczema, the inflammation may extend from the surface to the follicular region; it, however, is not an independent extension, but is caused by the irritation produced at the follicles by the stiff hairs of the part. Remove the hairs and no peri-folliculitis will occur, as the part will no longer be irritated. I consider, therefore, that in no other manner can the occurrence of sycosis on a part free of eczema, and provided with normal hair, be satisfactorily explained than by supposing the skin to be in an irritable condition, and that the hair is capable of increasing this irritation sufficiently to produce a peri-folliculitis, though not a general dermatitis. When eczema is not present, we must seek for other causes to produce this irritability, and they are found among the various mechanical and chemical irritants which predispose to the disease.

Nearly all writers agree that such things as constant exposure of the face to strong rays of heat, or occupations with dusty and irritating substances, can, and frequently do, produce the disease. In fact, as Tilbury says, "any local irritant can produce it, if the person is out of health, by rendering the skin irritable." Shaving, especially with a dull razor, acts in this way, as it produces great irritation of the skin, though Hebra is inclined to regard shaving rather as a prophylaxis against the disease than a cause of its production. Hebra, however, stands almost alone in this opinion, and the statement that he has met with sycosis more frequently among persons who never shave, such as the Polish Jews, than among those who shave daily, admits of easy explanation. It is easier to keep the skin clean when the face is shaven, than if the beard be allowed to grow long. Such being the case, it is easy to perceive that, with such a dirty class as the orthodox

Polish Jews, shaving is really a prophylaxis, for, as they neither shave nor keep themselves clean, their skin is exposed to all the irritating substances which collect in their beard, and the continued irritation therefrom is quite sufficient to render the skin irritable, or produce an eczema, and finally sycosis. That daily shaving is necessary in the treatment is for the majority of cases not correct, though, if it is necessary, that is no proof that it is also a prophylaxis. It is only a prophylaxis, as I have said, in the case of uncleanly persons.

We thus see that, among the different things which lead to sycosis, as eczema, exposure to strong rays of heat, dusty substances, shaving, irritating powders, cosmetics, etc., all act in the same way, producing an irritable condition of the skin, and the stiff hairs acting upon this irritable skin produce an inflammation in their immediate neighborhood, i. e., there arises a peri-folliculitis pilorum. Therefore, sycosis barbæ is not a folliculitis or an independent extension of an eczema to the peri-follicular region, but a peri-folliculitis; neither is its cause to be found in the large size of the hair, as compared with its follicle, but simply in the size and stiffness of the hairs, enabling them to act like spears on the tender skin. Sycosis, therefore, should not be classed among the diseases of the hair-follicles, but as a form of dermatitis, among the exudative affections.

Diagnosis.—There are but few diseases of the skin whose characters are more sharply defined, or that are easier to be diagnosed, than sycosis; yet it happens very frequently that other eruptions are regarded as sycosis or barbers' itch, merely because they are located on the bearded part of the face. Such an error, of course, will not be committed by those who have studied the disease carefully, and are familiar with the characteristic signs of the eruption. It is to be borne in mind that sycosis is not a frequent disease, and always presents decidedly characteristic appearances, the presence of which are necessary in any given eruption before the diagnosis sycosis can be made. On account of the rarity of the disease the chances are that an eruption, when seated on the face, is not sycosis, but some other disease of frequent occurrence in this region, as eczema or acne. Frequently sycosis is accompanied by a chronic eczema; but, if so, the two diseases can be easily separated and diagnosed by the special characters of each. In sycosis, papules, tubercles, or pustules are present, and generally all three at the same time. They are confined to the hairy parts of the body, and appear almost exclusively on the bearded part of the face; are frequently isolated, especially when the disease has become chronic, and each papule, tubercle, and pustule is perforated in the centre by a hair. When papules or pustules, wherever seated, and of whatever form, are not, or have not been, perforated in the centre by a hair, they belong to some other disease, since this perforation is an essential condition in sycosis, and is relied upon chiefly, when making the diagnosis. The diseases with which it is generally confounded are tinea barbæ (sycosis parasitaria of some authors), acne, eczema, impetigo, lupus, and syphilis. The use of the term tinea sycosis, or parasitic sycosis, for an entirely different disease from true sycosis, and the statement of some authors that all cases of the disease are parasitic in their nature, have been productive of the greatest amount of confusion among physicians and of suffering to the patients. Acting under the belief that a given eruption, because seated on the face, must be sycosis, and all cases of this disease, according to the latest views, parasitic in origin, physicians have had recourse to antiparasiticides, a class of remedies which usually aggravate and prolong the disease, and subject the patient to much unnecessary suffering.

In view of the importance of the subject, I will therefore enter into full details as regards the nature of this so-called parasitic sycosis, and endeavor to show its entire dissimilarity with sycosis in every respect, and consequently the impropriety of the term sycosis for this disease, in the hope that future authors in writing upon it will treat of it under its proper designation, namely, that of tinea barbæ.

Gruby ("Comptes rendus des séances de l'Académie des Sciences," 1842, p. 512) first described the disease, which has been called parasitic sycosis. To the fungus found by him in this affection he gave the name mentagraphyta, and named the disease itself phytomentagra. "The fungus," he said, "is formed within the hair, and between its root and the root-sheaths, and has its origin in the matrix of the hair and in the cells composing the follicle, but is never found to rise above the surface of the epidermis. The disease is limited to the hairy part of the face, and is most frequently met with upon the chin, upper lip, and cheeks. It covers those parts with white, grayish, or yellowish scales, which are slightly raised in the middle; their borders are angular, and pierced at all points by hairs. The scales are so firmly united with the hairs that, in removing them, some of the latter are pulled out at the same time." From his whole description, and from the fact that subsequent observers have shown the identity of the fungus present in such cases with the fungus of ordinary ringworm, namely, the *tricophyton tonsurans*, it is plain that the disease described by him was not sycosis, but simply tinea tonsurans of the beard, a disease which is not at all rare in Paris, occurring, according to Köbner ("Über Sycosis und ihre Beziehungen zur Mycosis tonsurans," Virchow's *Archiv*, 1861, xxii. Bd., p. 46), more frequently than sycosis. Although Gruby and several other writers since his time (Nelligan, *l. c.*, Küchenmeister, *l. c.*) believed every case of sycosis to be of parasitic origin, the majority of observers hold to the non-parasitic nature of the disease, and separate it from the sycosis of Gruby, retaining, however, the name of sycosis for both diseases. In reality, the two diseases are entirely different in every essential point. The sycosis of Gruby is always parasitic in nature, and the fungus which produces the disease corresponds to that which produces ordinary ringworm—the tricophyton tonsurans. I consider the disease simply a tinea tonsurans, modified by the anatomical characters of its seat, and will in future, in speaking of this disease, make use of the term tinea barbæ, as being the correct designation for it, representing, as it does, the true nature of the disease. The fungus in this disease passes down into the hair-follicle, then into the shaft of the hair, and is found in the matrix and between the hair and its sheaths. It is easily detected with the microscope in recently-altered hairs, but is frequently absent in hairs much changed or bathed in pus, as this latter is an antiparasiticide. The disease is generally preceded by a red, itching, or scaly spot of tinea circinata, of circumscribed or zigzag shape, upon which vesicles, tubercles, and pustules arise, accompanied with desquamation of skin and change in the character of the affected hairs. The tubercles of tinea barbæ arise without that pricking, burning sensation which occurs in sycosis, and are produced continuously, and not periodically, as in the latter disease. The fungus not only interferes with the normal growth of the hair, but, acting as a foreign body, produces irritation, and, secondarily, peri-follicular inflammation around the affected follicles. The hairs are affected early in the disease, becoming opaque, brittle, loose, and are easily extracted. The affected part is much indurated, and the tubercles are more voluminous than in sycosis, sometimes reaching the size of a cherry. In the majority of the cases I have seen, the tubercles were large, prominent, and studded with numerous hairs, which lay loosely in the indurated mass. The disease begins imperceptibly, proceeds slowly and steadily, always increasing in extent; while sycosis begins with severe local symptoms, pain and swelling of the part, which soon subside, but reappear in a few days, accompanied by a new outbreak of the eruption. In sycosis, the periodically recurring attacks keep up the disease, but in tinea barbæ the fungus, being always present, and the irritation therefore constant, the progress of the disease is gradual and continuous. In sycosis, during the papular stage, the hairs are not affected, and at that period of the pustular stage when the hair is surrounded with pus and its connection with the follicle-sheaths destroyed by the inflammation, they lie loosely in the follicle, so that epilation is easy and painless. In tinea barbæ the tubercles are frequently isolated, and situated on different parts of the face or neck. When several tubercles are situated closely together, they form a circular mass, or are arranged in the form of a circle, or part of a circle; they are more voluminous; their margins are sharply limited; the surface is uneven, fissured, and studded with loose hairs; the base is broad, firm, lies deep in the subcutaneous tissue, and generally cannot be raised without the corium. There is often a foul-smelling, sero-purulent secretion collected on its surface, which dries into a thick scab, which, when removed, takes the hairs along with it. In chronic sycosis the pustules are generally isolated, but in acute attacks they are seated more closely together. In nearly every case of tinea barbæ, patches of ringworm are present on other parts of the body, and even, if not present, there is often a history of ringworm among the patient's companions; or the disease has been conveyed from some animal, as a horse or mule, with which he came in contact. The number of cases in which there is no history of ringworm is only about 5 per cent. of all cases of this disease, and it is reasonable to suppose that this percentage would be still further reduced if the previous history could be accurately ascertained. It is somewhat singular that in the only typical case of this affection which has come under Hebra's observation ("Lehrbuch der Hautkrankheiten," ii. Bd., 3. Lieferung, Stuttgart, 1876, p. 654) no history of ringworm could be obtained. Tinea barbæ does not disappear spontaneously, but, when cured, there is no return of the disease, unless the patient is exposed again to contagion. If all those characteristic signs are insufficient to enable the physician to make the diagnosis, though it is improbable, then a microscopical examination of the hairs will, in competent hands, decide the question. It requires, however, more experience in the use of the microscope than is generally supposed to be necessary, in order to enable the physician to decide correctly as to the presence or absence of fungi in hair or scales. Therefore, unless the physician is accustomed to the use of the microscope, it is better not to rely too much upon his interpretation of what he sees through that instrument, for he will very probably imagine to see fungi even if none are present.

Thus, the situation, form of the patch, character of the tubercles, mode of origin, cause, difference of anatomical parts primarily affected, nature of the disease, condition of the hair, and derivation of the disease from some person or animal affected with the fungus tricophyton tonsurans, render the diagnosis easy, and show the complete dissimilarity of this disease in every respect to sycosis.

Now, since the term sycosis was used to denote a special disease long before Gruby made his observations, no other disease, therefore, should be called a sycosis, unless it can be shown that there is a close relationship with the disease originally named sycosis, or that the disease thus primarily designated was misnamed. As regards sycosis, it is true that the term was ill-chosen, as it is exceedingly rare to find the eruption presenting any fig-like appearance. This appearance is more common in tinea barbæ, yet it was not on this account that this disease received its name, but from its supposed identity of seat and nature of the inflammatory changes with those of sycosis, that it received the name sycosis with the addition of the adjective "parasitic" to designate the kind of sycosis. The reason for calling tinea barbæ parasitic sycosis was, that it was looked upon as a folliculitis produced by a fungus, and, as the general view of the nature of sycosis was, that it is an inflammation of the hair-follicles, therefore the two diseases were considered to be similar in character and to differ only in their causation. If the view that both diseases are similar in nature and differ only in the agent producing them was correct, then there would be some reason for the use of the term parasitic sycosis. For instance, eczema is sometimes a local disease produced by some known irritant—as, for example, in eczema of the upper lip, arising from the irritation produced by a nasal discharge; at other times the cause may be entirely different, yet, from the similarity of the pathological process in both cases, the disease receives but one name, which is intended to designate the eruption and not its cause. But, even assuming the view held by most authors of the present day to be correct, namely, that in both diseases an inflammation of the follicles always exists, that fact alone would not be sufficient ground for giving the two diseases a similar name, unless this inflammation is the essential feature of the disease and of constant occurrence. In sycosis the follicular inflammation is supposed by some authors (Fox, Hebra) to be idiopathic or primary, and by others (Wertheim) as produced by the hair-sheaths, hence secondary. In tinea barbæ the inflammation is always secondary to the nutrition changes in the hair and its sheaths, and arises from the irritation produced by the fungus present. We therefore see that only in secondary phenomena was this disease supposed to agree with sycosis, but we can never on such correspondence alone classify diseases so different in nature under one name. There is no more propriety in calling tinea barbæ parasitic sycosis, even if a follicular inflammation is generally present in it as well as in sycosis, and this inflammation the principal clinical symptom, than in calling scabies an eczema because an eczematous eruption is almost always present in the former disease, from the irritation arising through the presence of the acarus scabiei.[1] The only justification for the term would be, if, as Gruby and Küchenmeister believed, all cases of sycosis are parasitic in nature. This incorrect view, however, is not held by any living authority, since all writers accept the existence of a non-parasitic sycosis.

I have thus endeavored to make clear that, even if the view prevalent at present that sycosis is essentially an inflammation of the hair-follicles was correct, the term parasitic sycosis should not be used to designate a parasitic affection in which the changes in the hair and the peri-follicular inflammation were secondary results, and not the essential feature of the disease. But, as my observations have shown that sycosis itself is not a folliculitis, and that all changes which take place in the hair and its follicle are secondary to the inflammation around the follicle, every particle of supposed similarity between the two diseases disappears, and we must conclude that the two affections are absolutely different.

Therefore, the nature, mode of origin, course, termination, parts of skin affected, and, what necessarily follows from such great difference, the modes of treatment are all different; and, since the use of the term parasitic sycosis has also been the cause of great confusion and of erroneous ideas concerning the appropriate treatment, I ask, not only from a scientific but also from a practical standpoint, that the two diseases be no longer designated by the same name, and that, if the term sycosis be retained for the peri-folliculitis pilorum, that of parasitic sycosis be no longer employed, but that the parasitic disease of the beard be classed under its proper head as tinea barbæ.

---

[1] I am quite aware that Hebra places scabies in the same class as eczema, but outside of Germany he has no followers in this classification, and it is inconsistent with the classification he gives to the other animal parasites. Neumann also opposes this classification of Hebra.

Acne, which is a rare complication of sycosis, is a disease of the sebaceous glands, and consequently is not confined to the bearded part of the face, but appears on the forehead, nose, shoulders, and other parts of the body supplied with those structures. It is met with generally in young persons, does not often appear in periodical crops, and the papules or pustules are not perforated by a hair. This is sufficient for the diagnosis.

Syphilis is known by its concomitants, the arrangement of its papules in the form of a circle or part of a circle, their dark copper color, slow development, the absence of pain, history of the case, and the presence of syphilitic eruptions on other parts of the body. Syphilitic eruptions rarely occur exclusively on the hairy part of the face; the papules are flatter, have a shining look, and are not preceded by the burning, painful feeling which announces sycosis. In a pustular syphilide, the loss of substance, the destruction of the corium, the kidney or circular-shaped ulcers with dirty base, the history of the eruption, its presence on the other parts of the body, and the absence of pustules penetrated by a hair, will exclude sycosis.

Eczema is probably more frequently confounded with sycosis than any other disease. The localization of the eczema, and the statement of patients that they caught the disease by having been shaved with a barber's razor, are the deceptive motives for the incorrect diagnosis. In reality, eczema, as already stated, is a very frequent precursor and producer of sycosis, and the two diseases are often present at the same time and in the same region. In eczema there is either a moist red surface and absence of epidermis, with itching and "discharge" which forms thin scabs, or there is only hyperæmia, with a harsh dry skin and furfuraceous desquamation. The eruption is not limited to the hair-follicles, or to the parts provided with hair, but is also generally present on other parts of the face. If papules or pustules are present, they are not perforated by hairs. In impetiginous eczema, the duration of the disease, its localization, the great amount of crusting, the flat pustules, rapid march, the non-ulcerated surface under the crusts, and the absence of tubercles or papules pierced by a hair, show that the disease is not sycosis.

Lupus vulgaris occurs in young persons of both sexes, runs a very chronic course, causes but little pain, the tubercles are soft, covered with slightly-adherent scales, and are not perforated by a hair. It occurs generally either upon the nose or in its immediate neighborhood, and produces more or less destruction of the skin, which is replaced by cicatricial tissue. Lupus erythematosus resembles very closely in its chronic course and results those severe cases of sycosis which produce destruction of the gland-structures and skin-tissue. The progress of the destruction in lupus is more gradual; the margins more sharply defined; it occurs in both sexes, and generally commences on the parts of the face free of hair. There are no papules or tubercles pierced by hairs in this disease.

Prognosis.—The duration of untreated cases of sycosis varies very much in different persons, and in the different attacks in the same person: sometimes a spontaneous cure takes place in a few weeks, while in other cases the disease may continue, with greater or less severity, months, or even years. There is often a diminution in the severity of the disease during summer, and a return to its former condition in winter. Permanent, general, or partial alopecia occasionally follows untreated chronic cases, as a consequence of destruction of hair-follicles from the inflammation. In the most severe cases there may be complete destruction of the cutaneous tissue, hair-follicles, sebaceous and sweat glands, followed by cicatrices as extensive as are met with in some cases of lupus erythematosus. The tubercular form is more obstinate than the papular (Wilson, *l. c.*). In syphilitic and strumous subjects it is very obstinate (Fox, *l. c.*). The greater the amount of pustulation, the greater is the liability of the follicles being permanently destroyed. Sycosis, however, can always be cured, and generally within a few weeks, when it is subjected to appropriate treatment; although, after complete removal, it is very liable to return within a few weeks or months, especially in autumn, and generally in the location previously affected. Therefore, while we are justified in assuring the patient that the eruption can with certainty be removed, and probably within a very short period, yet a permanent cure cannot be guaranteed, as the disease is so liable to relapse. Frequently, however, no relapse occurs, provided the patient avoids the exciting causes which favor its production. If the principal cause lies in the occupation of the affected individual, a relapse is certain to occur, unless he changes his employment. From the long-continued pus-production, or from too irritating applications to the affected surface, erysipelas may arise and prove a serious complication. This, however, is a rare occurrence, and usually the only detriment resulting from even a long-continued sycosis is the destruction of a greater or less number of hair-follicles and sebaceous glands, and consequent permanent general or partial alopecia.

Treatment.—Though sycosis can be regarded as a local disease, having its origin in purely local conditions of the part affected, yet certain conditions of the general system predispose to its development, aggravate the disease when present, and prolong its duration. Those conditions must be taken into account, and receive the necessary treatment if the disease is to be treated with reference to rapid cure and prevention of a relapse. Sycosis is in this respect similar to many other skin-diseases which, although local in origin and capable of being cured by local applications alone, yet yield much more readily to combined local and general treatment, and the relapses are less frequent than when local treatment only is employed. The general nutrition of the patient must not be neglected, and any morbid condition, as rheumatism, dyspepsia, syphilis, struma, demands its appropriate treatment. Some one of those conditions is generally present, and the condition of the general system, and of every organ of the body, should be known before commencing treatment. A strumous condition of the system especially aggravates the disease, and causes an unusual amount of pus to be produced. It is unnecessary to enter into full particulars as to the proper treatment of any of those constitutional diseases, as that belongs to the domain of general medicine, and every physician who undertakes to treat skin-diseases should have a proper knowledge of internal diseases and their therapeutics. If there is a rheumatic condition of system present, alkalies are necessary; if the patient is anæmic, give iron, tonics, and a generous diet; for syphilis, mercury in some form, or iodide of potassium if gummata are present; and if strumous, cod-liver oil, and so on. Eczema, or superficial dermatitis, if present in the same locality, must be treated simultaneously with the sycosis, as the latter cannot be cured without the removal of the former. A knowledge of the proper treatment of eczema in its different phases is of much assistance to the physician in the treatment of sycosis, as there is a great similarity between the two diseases as regards the course of treatment to be followed. In sycosis of the upper lip it is especially to be borne in mind that the disease is generally kept up by a coryza, and that it is almost impossible to cure the former so long as the discharge from the latter continues to irritate the part. Much can be accomplished in the way of prophylaxis in warding off a relapse of the disease by a knowledge of the special predisposing cause at work in each case. If the patient's occupation plays an important part in producing the eruption, it should be changed, if possible. Exposure to excessive heat or cold should be avoided, also the use of cosmetics, snuff, and other irritating substances. Cleanliness is an excellent prophylaxis in this affection. When the disease is present, our chief reliance for its removal consists in local treatment, though constitutional treatment is of decided advantage as an adjuvant. The latter alone is never sufficient to effect a cure of the disease; but local treatment, used according to the special indications of each case, is adequate to effect a cure unaided by constitutional treatment, though relapses are more liable to occur. In the acute stage we should endeavor to allay irritation, and wait until the swelling and pain subside before using active measures. Lead and opium, warm applications, as a sponge dipped in hot water, or poultices, should be applied. The treatment in this acute stage is simply that which is applicable, and is everywhere employed, in inflammation, when we wish to allay irritation. Until the acute symptoms subside, this soothing treatment is to be continued. After they subside we must still continue to allay irritation, for, as I have shown, an irritable condition of the skin is the principal predisposing cause of the eruption.

In the chronic stage the treatment varies, exactly as in the case of chronic dermatitis, according to the condition of the part affected. To reduce irritation, produce absorption of effused products, and remove the existing inflammation, should be the object in view. If scabs are present, they must be removed with poultices, ointments, or oily applications, before commencing other treatment. If the scabs are not removed it is useless to make local applications, as they do not reach the part you wish to influence with them. If the patient has a long beard, and will not permit its being removed, the sycosis will be much more difficult to cure than if the beard is short. Its presence, however, is not an insuperable object to successful treatment, though it retards the cure on account of the difficulty of applying remedies to the seat of the eruption. If there is any inflammatory thickening, absorbent remedies are required. Those, however, which irritate, as iodine, must not be used, as they aggravate the disease by increasing the irritation in the part. Some preparation of mercury, sufficiently diluted to prevent it from producing too much irritation, is the most suitable remedy. If the thickening is considerable, and of long standing, the oleate of mercury with morphine acts very efficiently. Care must be taken, however, not to use a very strong solution, or to apply it oftener than once every three or four days, as it sometimes irritates, and, from the facility with which it is absorbed, may produce ptyalism. Such accidents have occurred in my practice after very few applications of the oleate.

Epilation, first recommended by Plumbe (*l. c.*), is not only exceedingly useful in reducing the inflammation, but is absolutely necessary in the treatment, if permanent alopecia is to be avoided. Some authors say they derive but little benefit from it, but I believe, if it is performed at the proper time, the result is most beneficial. To remove the hairs during the papular stage, while they are still firmly seated in the follicle, increases temporarily the irritation, as their extraction causes great pain; but during the pustular stage they are easily extracted, and when the operation is performed not only has the pus a free exit but the follicle is thereby frequently saved and permanent alopecia prevented. Though extraction during the papular stage causes pain and temporarily increases the irritation, yet I believe the evil resulting from the additional irritation thus produced is more than counterbalanced by the good resulting from the free exit allowed to the pent-up pus and the removal of the irritating hairs. Fomenting the part with hot water lessens the pain produced by the operation of extraction. In performing the operation, but a single hair should be seized with the forceps at one time, and traction should be made in the direction of the long axis of the hair. Every hair perforating a papule or pustule should be extracted. In cases of circumscribed sycosis—that is, where the disease remains confined to a small spot for a long period—it is better to remove all the hairs from such a spot, even if the operation causes considerable pain. This removal of the hairs, to save the follicle and allow exit to the pus, is, I believe, a much better procedure than opening the pustules, or rather small abscesses, with a knife.

In using ointments, the same rules are to be observed as in other skin-diseases. They should always be spread on cloth and bound on the part, as they then act more powerfully and efficiently than when simply rubbed in. The diachylon ointment of Hebra is most frequently employed, and is of great service in curing the disease. The ointment should be applied twice in every twenty-four hours, and kept constantly on the part.

Whether the part affected should be shaved or not is a disputed question. Good authorities are found to differ on this question, some recommending and others opposing the operation. Basing my views upon the nature of the disease, and knowing that shaving irritates the inflamed part, I believe it is injurious, and that it is much better to cut the hairs close to the skin with scissors. If they are thus closely cut, the part is not irritated by the operation; ointments can be properly applied and the hairs easily extracted. Hebra (*l. c.*), who says he has tried the different methods of treatment, is decidedly in favor of daily shaving and washing the part; yet, as equally good authority is found opposing it, future experience must decide which is the proper course to pursue.

The plan pursued at Cannstadt ("Ueber die Behandlung der Sycosis in der Heilanstalt zu Cannstadt," *Blätter f. Heilwissenschaft*, Jahr. 4, Nr. 11, 1873), of rubbing in a salve composed of two parts of ship-tar and one part of green soap until the hairs are easily extracted, then touching the cavity with acetic acid, is unnecessarily severe, and cannot be indicated in any, except perhaps chronic cases, with considerable induration and thickening of the cutis.

Ointments containing sublimed sulphur, or the iodide of sulphur, in varying proportions, according to the amount of induration and irritability of the skin, are of service, but must not be made so strong as to produce irritation.

In strumous subjects, the local application of cod-liver oil often acts more beneficially than ointments of either lead, sulphur, or mercury.

Hence epilation, and the application of astringent ointments, as the diachylon ointment of Hebra, with or without the addition of a mercurial preparation, according to the amount of induration present, and appropriate constitutional treatment, will enable the physician to cure all cases of sycosis, except the destructive form, within a few weeks, providing the patient does not continue to expose himself to the predisposing cause of the disease.

I will not enter further into the treatment appropriate for the disease in its different stages and conditions, as that would occupy too much space, and it can be learned in any good work on diseases of the skin. Epilation and the treatment appropriate for eczema can be considered the proper treatment for sycosis. We have learned that the skin is in an irritable or inflamed condition previous to appearance of the sycosis, and that the irritation from the hairs acting upon this changed tissue produces the peri-folliculitis. This irritability must be removed, as well as any actual inflammation or inflammatory products in the affected part. The same rules for treatment hold good here as in inflammation or irritability in any other part of the body, and the physician must know those rules and have a clear idea of the exact nature of the process going on in the part in the different stages and conditions of the disease. Knowing those things, he cannot fail to cure quickly every case of ordinary sycosis.

All the drawings have been made by myself by means of a camera-lucida, and are exact reproductions of the appearances presented. Owing to severe illness and limited time, I have been unable to make as many drawings of the changes which take place in the pustular stage as I intended to do. I studied the sections, however, carefully, and have endeavored to describe the changes.

In conclusion, I have to express my thanks to Drs. M. H. Henry and L. D. Bulkley, of this city, for living material obtained from some of their patients, and also to the artist, Mr. C. F. Ruestow, for the manner in which he has executed the woodcuts.

No. 356 West Forty-second Street, New York City.

2

POMPHOLYX

[CHEIRO-POMPHOLYX (HUTCHINSON): DYSIDROSIS (TILBURY FOX).]

A Study on this Disease with special reference to its Nature
and Pathological Histology.

BY

A. R. ROBINSON, M.B., L.R.C.P.& S., Edin.

Special Pathologist to the New York City Asylum for the Insane; Attending Physician to the Bellevue Bureau of Out-door Poor, Children's Department; Member of the New York County Medical Society; of the New York Dermatological Society and of the American Dermatological Association; Prize Essayist of the Bellevue Medical College Alumni Association, 1877, Etc.

Reprinted from the "Archives of Dermatology," Vol. III., No. 4, 1877

NEW YORK
G. P. PUTNAM'S SONS
182 Fifth Avenue
1877

POMPHOLYX.

[CHEIRO-POMPHOLYX (HUTCHINSON): DYSIDROSIS (TILBURY FOX.)]

BY A. R. ROBINSON, M.B., L.R.C.P. & S., EDIN.

Special Pathologist to the New York City Asylum for the Insane.

HISTORY: In the American Journal of Syphilography and Dermatology, January, 1873, Dr. Tilbury Fox, of London, published the first article on this disease. He named the affection dysidrosis, and stated that "it is characterized by the retention in the follicles of the skin of sweat rapidly and freely secreted. The disease bears the same relation to the sweat follicles that acne does to the sebaceous glands. The retention of the sweat and distension of the follicles are followed secondarily by congestion of the sweat follicles, by the formation of bullæ, maceration of the epidermis and perhaps more or less dermatitis. The sweat glands are frequently seen dilated here and there over the affected surface, and never seem to recover their proper character. The origin of the disease is a distension of the sweat duct, not only of its superficial, but also of its deeper part, and this is followed by the continued distension of the duct, and the aggregation and coalescence of the vesicles. It depends on a paresis of the nerve supply of the sweat apparatus, whereby its functions become deranged."

Mr. Hutchinson, of London, a surgeon of unusual attainments and of high and well-earned reputation as an original and trustworthy clinical observer and pathologist, published, in 1876, in his "Illustrations of Clinical Surgery," a drawing of this disease to which he gave the name cheiro-pompholyx. He made no mention of Dr. Fox's article, and said he did not think any correct clinical description of the disease had been previously given. He considered the contents of the vesicles or bullæ to be serum, and the disease itself a neurosis. His description of the disease will be given further on in this article. Upon the publication of this article, Dr. Fox (Lancet, April 15, 1876, page 553) attacked Mr. Hutchinson for not referring to his article on dysidrosis and for not having recognized his assumed claims as the first to have described the disease. He drew attention to the similarity in their descriptions of the disease, and in the use of certain terms such as sago-grain appearance, a coincidence which he imagined to be due to Mr. Hutchinson's familiarity with his (Dr. Fox's) paper. He considered Mr. Hutchinson had failed entirely in comprehending the nature of the disease, " which is an affection of the sweat glands and consequently the contents of the vesicles or bullæ are sweat and not serum as maintained by Mr. Hutchinson." It was shown, however (Lancet, April 22, 1876, page 618, and April 29, 1876, page 639), that Mr. Hutchinson was quite familiar with the disease years before Dr. Fox had recognized its special character, and that in fact the patient from whom Dr. Fox obtained his first impressions of the disease had been fifteen years under Mr. Hutchinson's observation before Dr. Fox saw her. This was the same patient of whose hands a drawing was given in the " Illustrations of Clinical Surgery." This drawing had been used by Mr. Hutchinson for years previous to the appearance of Dr. Fox's article, to illustrate his lectures upon this disease given by him at the London Hospital and at Blackfriars. There is therefore no ground whatever for Dr. Fox's claim to priority in the matter, neither was Mr. Hutchinson, to use his own words, indebted to Dr. Fox "for even a sago-grain." As to whether it is a disease of the sweat glands or not will be shown conclusively when I treat of the nature of the disease later on, and give the result of my own studies on the subject.

Whilst, therefore, the credit of having first recognized and lectured upon the disease belongs to Mr. Hutchinson, it is nevertheless to be regretted that he did not sooner publish his views and thus not only have done justice to himself but also have aided science.

Through the kindness of Dr. Fox, who showed me several examples of the affection at his clinic in University College Hospital, and drew my attention to its characteristic diagnostic characters, I was acquainted with the disease whilst studying in London, and in this city I have seen a considerable number of mild cases of the affection. I have had also a most excellent example of the disease in a patient who has been for some time under my observation and care, and from whom the material was obtained which now enables me to discuss the disease and to decide as to its true nature.

Symptoms: I will give Mr. Hutchinson's and Dr. Fox's description of the clinical characters of the disease in preference to one by myself, partly because they are more familiar with its symptoms than I am, and consequently their descriptions are of more value; and partly because I wish to show by them that the case whose history and symptoms I will afterwards relate, and from whom portions of skin were removed for microscopical study, was a most excellent example of this disease.

Mr. Hutchinson's description of the affection is briefly as follows: The more severe forms which I have seen have always been in women, and usually in association with a highly nervous temperament. The disease appears to be characterized by rapid and symmetrical development, by tendency to spontaneous cure, and by the liability to recur over and over again in the same individual. The hands are the parts first affected; the feet come next; and in a few instances a rash appears over the rest of the body. In the majority of cases the hands alone suffer, and in all they are the parts most severely affected. A tendency to spontaneous absorption of the fluid contained in the vesicles or bullæ, even when the latter are very large, is a very remarkable feature. It is not connected with any local cause nor is it influenced by local treatment. The eruption begins with intense burning and itching on some part of the hand, usually between the fingers. After a short time—a few hours or a day or two—there are seen, deeply placed in the skin, small accumulations of clear serum, looking like sago-grains. These are perfectly transparent and not unfrequently resemble the vesicles of scabies sufficiently to excite suspicion. They differ, however, from those of scabies in being much more deeply placed, having flatter tops, in being usually closer grouped together instead of scattered, and in the entire absence of burrows. In some it occurs during hot weather, but in most instance no cause can be given for its occurrence. Those who have had it once will very probably have it again, and several of the facts in its clinical history coincide pretty nearly with what is true of herpes of the lips and of the prepuce. I do not recollect even to have seen a well-marked example of it in a patient under the age of puberty, nor in a very old patient. The tendency to speedy and spontaneous disappearance, leaving the skin quite sound, supplies a feature of positive difference from eczema, of which the indefinite duration and the tendency to persist and become aggravated are such marked characters. Symmetry, spontaneous cure and liability to relapse are its clinical characteristics. In minor degrees the affection is tolerably common. Many, indeed perhaps most of us, are liable at times in connection with slight derangements of health, or possibly with exposure to the sun, to the occurrence of a very irritable sago-grain eruption on the sides of the fingers. The so-called sago-grains are deeply placed effusions of serum, but in a large majority of cases they undergo spontaneous absorption after a few days, and not even peeling of the epidermis results. They never by any chance result in eczema. In those liable to this slight affection the disease is prone to recur repeatedly at intervals perhaps of a few years. More severe cases, in which the vesicles coalesce and develop into bullæ, are not very uncommon, their subjects being, so far as my experience has gone, almost invariably young women. In several of the most severe cases which I have witnessed the eruption was attended by extreme depression of spirits. Although the eruption always shows a tendency to spontaneous disappearance, yet, in some instances, it may last a couple of months and require treatment. In one case under my care the liability to attacks had extended over thirty years. In this case the vesicles always broke, and a state much resembling that known as psoriasis palmaris resulted in the palms, whilst on the sides of the fingers it looked more like eczema.

Dr. Fox's description of the disease coincides very closely with that of Mr. Hutchinson's, an occurrence not to be wondered at since the same patient furnished both of them the best example of the affection perhaps that they have ever seen. Independently of this patient, however, Dr. Fox has very carefully studied the clinical characters of the disease in a great number of patients, some of whom he kindly showed me and explained to me his views of the disease. Dr. Fox says " the disease, in its slightest form, is confined to the hands, occurring in the interdigits, over the palm and along the sides of the fingers, and on the palmar surfaces. It makes its appearance in those who habitually perspire freely, and the patients feel weak and depressed. The eruption consists of minute vesicles deeply imbedded in the skin, and are at first isolated. They do not readily burst, and when a few days old look like sago-grains imbedded in the skin. The vesicles afterwards become more distended and raised. They are not pointed, but oval, eventually become faintly yellow in color, and run together and form bullæ. The hand is then stiff and painful. If the eruption is left undisturbed, the fluid is partly absorbed, partly evaporated, the cuticle then peels off, leaving a non-discharging, reddened, exposed derma. In some of the milder cases only vesicles are formed. When disappearing altogether from the hand the palm is left harsh and slightly scaling. In some cases a red, dry, slightly scurfy, painful surface is left behind and becomes chronic. No patient is well who has this disease. In severe cases there is great nervous debility."

From this curtailed description of Dr. Fox's, it is readily seen that both Dr. Fox and Mr. Hutchinson are describing the same disease, though their views as to its nature are so widely different, as has been already stated in giving the history of the affection.

And now to the history of my patient.

L. S., born 1846, is of medium height, light complexion and weak muscular development. In 1849, one of his thighs was fractured twice, after which time his mother says he was sickly and nervous for a number of years. In 1866 was married, and six children have been born to him since that time, three of whom are dead and three living. Two children (boy aged 5 months and girl aged 2 years) died of spinal meningitis, and one (a female child) died of pemphigus. The pemphigus commenced on the ninth day after birth, as a small blister the size of a pea, on the right side of the abdomen, below the umbilicus. Within twenty-four hours the bullæ had reached the diameter of one inch. A few days later, another appeared on the left side of the neck, which rapidly increased in size and attained a length of three or four inches. At the same time smaller bullæ appeared on both temples near the eyes, in the armpits, and over the rest of the body. On the 12th day (3d of the sickness) the pulse was 140 and temperature 103° F. On 14th day pulse 100 and temperature 102¼. It lived fifteen days during which time its bowels were regular and it nursed well until the 15th day. The bullæ left a raw, sore surface behind. Luke-warm water was used for bathing it. This was the fifth child of the family. The sixth child has had eczema capitis. In February, 1871, he received an appointment in the New York fire department, since which time he has always been connected with this service. Previous to his marriage a few vesicles would appear occasionally on his hands, but the first severe attack was in July, 1871. This attack lasted about two months, appearing both on the hands and feet, but commencing on the hands. The feet were not attacked until about one month after the hands. The eruption occupied the entire palms of the hands, the palmar aspects and sides of the fingers, and a portion of the plantar surfaces of the ungual phalanges. On the feet it appeared only on the soles, from which it removed the entire corneous layer of the epidermis. According to the patient's statement, the eruption during this attack consisted of vesicles, at first deeply placed and isolated, but afterwards frequently uniting and forming bullæ. The vesicles almost always dried up, their contents being absorbed without a rupture of the walls taking place. Even the large bullæ generally dried up without rupturing. If large areas of the skin were bereft of all that part of the epidermis above the vesicles or bullæ, *i. e.*, the corneous layer of the skin, all that was observed beneath was a reddish, smooth surface. Various applications were made to the hands in the treatment of the disease (it having been regarded as an eczema), but no benefit was derived from their use. He then ceased treatment and the disease disappeared spontaneously, having lasted about two months. In 1872 he was bitten in the right hand by a dog, and the dread of hydrophobia made him very nervous and depressed in spirits. In February, 1877, the second severe attack occurred, though isolated vesicles appeared every now and then during this interval of nearly six years. During this last attack, which still continues (June 14th), he has been under my care. The eruption had lasted about three weeks when I first saw him. It had commenced on the palms of the hands near the wrist, and spread over the entire palms and between the sides and on the palmar surfaces of the fingers. When I saw him the majority were seated between the fingers. The eruption has changed but little in its mode of appearing and in its course since I first saw him. An outbreak is always preceded by a tingling, burning sensation in the parts, and the patient is more than usually depressed and nervous. The eruption appears as small clear vesicles, deeply placed in the skin. They may be single or collected in groups of two, four or more. Very frequently the vesicles forming a group are all of the same age and size. The eruption always was symmetrical, and I have very often observed that exactly corresponding parts of the hands or feet became affected at the same time. If but a single vesicle existed it almost invariably dried up. Where there was an aggregation of vesicles they were at first isolated, but afterwards frequently united and formed a bulla. If then the liquid was absorbed, the skin covering them became very hard and dry. I stated that the vesicles appeared to contain a perfectly clear liquid, but this afterwards generally became more or less opaque, though scarcely ever yellowish in color. This latter occurred only when large bullæ were formed and the liquid slowly absorbed, *i. e.*, in other words, it was observed only when the bullæ were of several days' standing, and, as will be seen afterwards, was owing to the number of pus cells present in the liquid. The vesicles were never seen to have a red base. The walls of the vesicles appeared of a darker color (from compressed cells) than the surrounding skin or the contained liquid. This really made the vesicles look like sago-grains imbedded in the skin. The vesicles gradually became larger, and raised. Isolated vesicles in the palms of the hands seldom became raised above the level of the skin previous to absorption. Where they appeared in groups they always became raised above the general surface, as also most of the isolated vesicles between the fingers. They were never pointed, but always had a more or less flattened top. After the absorption of the contents or rupture of the vesicles or bullæ, a reddened surface (on account of the thinness of the epidermis) was left behind. At no time was there a cracked or discharging surface or any appearance resembling that of eczema in this region. Occasionally the eruptions spread peripherically, especially in the palms of the hands. There has been no change in the appearance of the vesicles since I first saw him, but at present the disease is not so severe, the eruption consisting principally of isolated vesicles and but very few bullæ. Occasionally, however, an " outbreak " occurs lasting two or three days. Then the eruption presents more of the character it had in an earlier period of the disease. The feet are also affected, but only in a slight degree, a group of vesicles appearing occasionally here and there. Their appearance is always preceded by a tingling in the part. They appear symmetrically, and often on exactly corresponding parts. There has never been any accompanying eruption on the other parts of the body. I have tried various local applications and naturally without any benefit except keeping the parts soft. Internally he has taken iron, strychnine and pure phosphorus, and evidently with some benefit. To-day I have prescribed Fowler's solution of arsenic in five drop doses, three times a day.*

The patient is exceedingly nervous and depressed in spirits. He was so nervous that he hesitated several weeks before allowing me to remove a second portion of skin from his finger. Even then I was obliged to benumb the part with ether spray before using the knife. He says his forearms and hands feel benumbed and " sleepy," especially in the morning, if he keeps them elevated above the bedclothes. He sweats a great deal, yet the hottest day in summer is not too hot for him.

Before proceeding to give a description of the mode of formation and structure of the vesicles and bullæ in this disease, I will give a short account of the clinical characters and structure of the eruption in the different skin diseases in which vesicles or bullæ occur; in order the better to be able to decide the question as to whether pompholyx is a separate and distinct disease, or only one of the other previously known vesicular or bullous diseases appearing in a locality whose anatomical characters and situation influence its development and course in such a manner that it receives additional or special characters.

---

* July 12th. After taking the arsenic one week the eruption disappeared entirely, but reappeared seven days after ceasing its use.

Vesicles or bullæ occur in sudamina, miliaria, pemphigus, herpes, hydroa, burns, eczema and erysipelas.

In sudamina, the liquid composing the vesicle is enclosed between the layers of the stratum corneum; both the base and summit of the vesicles being formed of the cells of this layer. The liquid is acid or neutral, and is nothing but retained sweat, the disease itself being merely the retention of sweat in the corneous layer, either from rupture of the walls of the sweat duct, or from some obstruction to its free passage to the surface of the skin. The vesicle always consists of a single chamber. The disease generally appears on the neck, about the shoulders and on the trunk as clear watery elevations, which quickly dry up and are followed by slight desquamation. The disease is not symmetrical in its appearance, is not preceded by nervous symptoms or pain in the affected part, in fact bears no resemblance clinically with pompholyx.

Miliaria is supposed to be only inflamed sudamina, and in this case the contents of the vesicles are alkaline and not acid. The structure of the vesicles remain, however, the same as in sudamina. I have my doubts as to the correctness of this explanation of miliaria, and hope before the present summer passes away to further investigate this subject.

In pemphigus the eruption consists of blebs seated upon an inflamed base, which is quickly covered over by the enlarging bullæ. The latter are generally isolated, of a round or oval form, elevated above the general surface and reach their maximum of size in a few hours. The liquid is at first alkaline and transparent; but afterwards become turbid and acid. It is serous in nature, being derived direct from the blood. The fluid within the bullæ is sometimes absorbed; in which case the latter shrivel up without bursting. At other times the blebs burst, and a slight ulceration takes place where the eruption was seated. Sometimes rupture of a blood-vessel occurs and the contents of a bleb becomes sanguinolent. The eruption generally occurs in successive crops, and is accompanied with slight smarting and soreness in the part attacked. The disease rarely attacks the head, palms of the hands or soles of the feet in adults, although, according to my experience, pemphigus appearing in children within the first few days of extro-uterine life generally shows itself on the two latter localities. In the bullous syphilide the contents are more pustular than serous, and dry to a thick scab. According to Haight (Sitzungsberichte der K. K. Academie in Wien, 1868, Bd. lvii.), the summit of the bullæ in pemphigus is formed from the corneous layer whose cells do not color in carmine, and its base is formed from the mucous layer over which a double layer of flat cells lies. " The cells of the under mucous layer are somewhat elongated, those of the upper layer flattened, with their long axis parallel to the corium surface. The papillæ are somewhat swollen and higher, penetrated by fine spaces, and their blood-vessels insignificantly enlarged. From this drawing out of the cells of the malphigian layer the bulla is at first fan-shaped, but afterwards it is simple, the effused liquid filling the entire bullous space."*

Herpes is characterized by the appearance of vesicles or bullæ seated always upon an inflamed base. They are collected into groups of two or more vesicles or bullæ which are distinct from each other. The vesicles of a single group are generally of the same age, and they do not as a rule burst; but dry up and the contents disappear by absorption. The liquid is at first clear and alkaline, or neutral; but afterwards becomes opaque and acid. The eruption is preceded and accompanied by burning pain, heat and tension in the affected part. The disease is generally unilateral. The local forms of herpes resemble each other very closely, differing only in the mode of arrangement and number and size of the vesicles in the groups. In the vesicular syphilide the vesicles are seated on a dark base, are met with most frequently on the body and limbs, and probably never on the feet and hands alone (Fournier). In herpes zoster a perpendicular section through a bulla shows, according to Dr. Haight (l. c.), the corneous layer raised, the corium surface exposed, and between them a flattened compartment containing the effused liquid. " The corneous layer consists of several layers of flattened cells without nuclei, and has on its inner surface one or more similarly flattened cells of the upper malphigian layer containing nuclei. The cavity is divided into several large spaces by thick bands, which spaces are again subdivided by a fine network. The thicker bands lie stretched perpendicularly between the corneous layer and the interpapillary part of the corium. They consist of several rows of closely-packed spindle-formed cells, having a nucleus which colors deeply in carmine. In every space bounded by these bands a papilla projects, and the number of spaces in a bulla depends upon the size of the latter and the number of papillæ. The spaces are covered by a network which passes in every direction, and is formed partly from spindle-shaped nucleated cells, and partly from nucleated cells provided with several branches, and also from fine fibres. Epithelial cells are attached to the surface of the corium and between them small round cells similar to those lying in the corium. In the loose corium tissue a few round, granulated cells about the size of white blood corpuscles are found. The nerve fibres in the corium are swollen, the mark substance softened and the axis cylinder lies eccentrically." I cannot accept without fur-

---

* In the description of the formation of the vesicles or bullæ in pemphigus, herpes, erysipelas and burns, I quote the statements of other observers, as I have not studied the subject myself.

Fig. I.

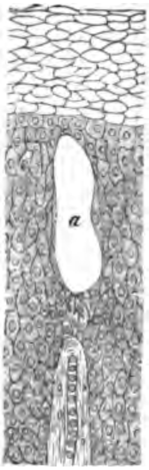


FIG. I. represents a very early stage of the vesicle formation. The vesicle *a* had its origin from the bloodvessels of the papilla seen directly beneath it. The contents of such a young vesicle are clear serum, and no round cells are to be seen either within the papilla or between it and the vesicle. The cells between it and the vesicle are paler in color and somewhat changed in form.

Fig. II.

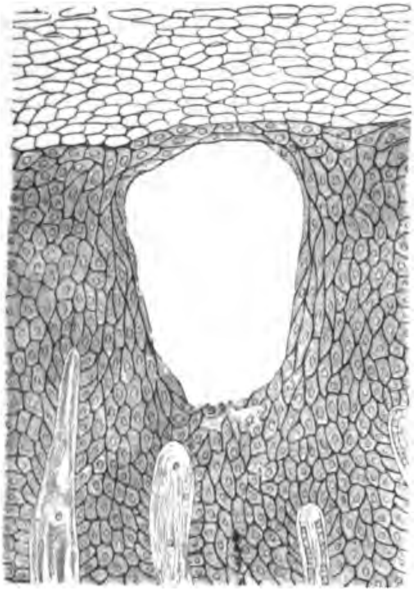


FIG. II. exhibits a later stage than Fig. I. The cells in the vicinity of the liquid become more pressed and flattened as the vesicle increases in size. The corneous layer is slightly macerated, and the cells detached in two places, in this figure. The liquid in this vesicle came from the papilla situated below and slightly to the left of the vesicle. The wood-cut does not show that so clearly as appears in the section or in my drawing on paper.

ther proof than that derived from the section of a single nerve trunk, that the above-mentioned condition of the nerves is always present in herpes, or that it has anything to do with the production of the eruption. I am rather inclined to regard the condition found by Dr. Haight in his section as a secondary and occasional condition, produced by the excessive amount of liquid in the part and not as a cause of the herpetic eruption. The number of the thicker bands also cannot depend upon the size of the bulla but only upon the number of papillæ affected.

In erysipelas bullæ occasionally occur, but the clinical character of the disease is so well understood and so entirely different from that of pompholyx that it is unnecessary to enter into the description of the formation of the bullæ in this disease, further than to state, that they closely resemble those of herpes, with the addition, that there is extensive infiltration of the corium with serum and round cells.

In eczema vesiculosum the vesicles appear upon a swollen and reddened base, the vesicles burst and the secretion dries to crusts, upon the removal of which, a moist, red secreting surface is seen. The disease can attack any part of the cutaneous surface, is of uncertain duration, and when seated on the palms of the hands produces a rough, painful, cracked surface, which shows but slight tendency to heal without proper treatment.

According to Biesiadecki (Sitzungsbericht der K. K. Acad. Wien, 1867), in vesicular eczema the papillæ are broadened and lengthened by infiltration with cells and liquid. The connective tissue corpuscles of the papillæ are large and soft and increased in number Numerous spindle-shaped cells stretch from the papillæ into the mucous layer, press the cells of the latter from each other, and reach even as far as the corneous layer. They often build in the mucous layer a thick network, within which lie the epithelial cells. If the process stops at this stage only a papule is formed; but if it passes on to the formation of vesicles, then there is a greater increase of cells in the papillæ, the superficial cells of the mucous layer become swollen and burst, and the epidermis is elevated. According to the quantity of liquid passing from the papillæ to the corneous layer will be the size of the vesicle.

In vesicles from burns of the first grade the papillæ are wider and longer, and the papillary blood-vessels three times their normal size. Over the changed papillæ the epidermis is raised, and on the inner surface of the latter a single layer of contracted epithelial cells lies, whilst between this layer and the corium thin fibres are spread out. If the exudation is excessive these fine fibres become torn and are found clinging to the under surface of the epidermis and upper surface of the corium. Between these fibres the stretched out cells of the mucous layer appear, and a few round cells are present within the vesicle.

As the term hydroa has not as yet been employed to represent any special vesicular or bullous disease, but rather anomalous forms of pemphigus or herpes, and as the anatomical structure of the vesicles has not been studied by any miscroscopist, it is unnecessary to here reproduce the description of the disease as given by those authors who have made use of the term, further than to state, that as regards location and clinical characters there is no resemblance whatever between this disease and pompholyx, except the presence of vesicles in both affections.

In studying the nature of the liquid in the vesicles and bullæ of pompholyx the contents of the small vesicles were examined microscopically after mixing them with serum obtained from a frog's eye, whilst that contained in the bullæ was examined without the addition of any indifferent fluid. The contents of the small vesicles and of all vesicles of only a few hours' existence were examined in serum, as without this procedure the liquid dried up before it could be properly examined. In the very earliest stage, i. e., during the first few hours of the existence of a vesicle, the contents contained no formed elements ; but in a later stage small, round bodies of the size of lymph corpuscles were to be found, and the number present was as a rule proportionate to the age of the vesicle or bulla. It is owing to the presence of these bodies in the liquid that it frequently assumes a yellowish color in the later stage of the vesicles or bullæ. In the earlier stage these bodies show amœboid movements similar to those observed in white blood corpuscles. They color in carmine and hæmatoxylin. They are, in fact, nothing else than out-wandered white blood corpuscles. Their presence pointed to the probability of the liquid in which they exist having had its origin in the blood, i. e., that it was effused serum.

Examined chemically the contents were always slightly alkaline or neutral, and never acid ; and although sweat is generally acid, yet in this case that fact would not have been sufficient to have proven that the liquid was not sweat, and consequently that the disease was not an affection of the sweat glands, since the sweat also was neutral. The sweat in the immediate neighborhood of a group of vesicles, as well as on other parts of the hand, was found to be neutral every time I examined it. In the later stages the liquid frequently becomes acid. Testing, however, with nitric acid to decide as to the serous or sweat nature of the contents, gave decisive results. An albuminous coagulum was immediately produced, with the nitric acid in the usual proportion obtained from serum, whilst testing the sweat in the same manner, not a trace of a precipitate was observed. Thus the disputed point between Mr. Hutchinson and Dr. Fox was clearly decided by this simple test, and it is surprising that neither of the gentlemen engaged in the controversy thought of this means of deciding the question, or of defending their position, and more especially Dr. Fox, as he was the attacking party. Before coining a new name for a disease, and especially before making use of a term so suggestive as dysidrosis, one certainly should enter into a thorough study of its real nature, and thus avoid the error which so often follows supposition or mere guess work. Everything in pompholyx points against its being an affection of the sweat glands ;

Fig. III.

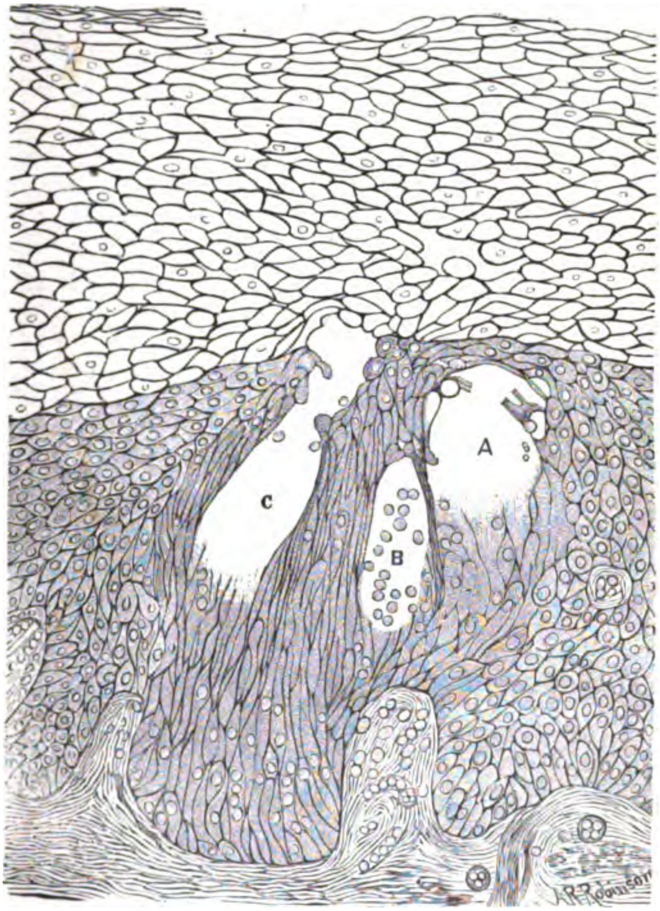


Fig. III. shows the simultaneous formation of three vesicles from three adjoining papillæ. The bands separating the vesicles correspond to the inter-papillary spaces. Between *A* and *B* the separating band has become very narrow, whilst that between *B* and *C* is still broad. The stretching and flattening out of the cells of the Malpighian layer is well shown in this drawing. In *B* pus cells have appeared, and some are present in the papillæ and in that part of the Malpighian layer lying between the corium and the vesicles. On the right is to be seen the apex of a papilla cut across. This drawing does not show the origin of the different vesicles from separate papillæ, but a drawing of this section was made because it shows the manner of the separation of the vesicles in the beginning of the process and of their union afterwards.

therefore there was all the more necessity for previously examining chemically the nature of the contained liquid, before claiming to be the discoverer of a hitherto unrecognized disease of the sweat glands.

Thus the ordinary test for albumen would have decided the question had it been employed, and in my hands did decide, that as far as the contents of the vesicles and bullæ were concerned, *the sweat glands had no part whatever in their production.* Hence the term dysidrosis, for this disease at least, cannot be any longer employed and consequently must be stricken from the nomenclature of skin diseases or used synonymously with sudamina.

In laying so much stress upon this test with nitric acid I do so with a full knowledge of the experiments of Leube (Centr. f. d. Med. Wissen. 1869), by which he proved the occasional excretion of albumen by the sweat glands. The quantity found was always very small, and required special manipulation to show its presence. These experiments, therefore, have no weight in the present question.

Histology. In order to study the origin, structure, mode of formation, course, etc., of the vesicles, portions of skin containing in all thirteen separate vesicles in different stages of development, were taken from two different parts of the fingers. There was an interval of about four weeks between the time of the first and second cutting. The excised pieces of skin were washed with water to remove any adherent blood, and placed, first in Müller's liquid for two weeks, and afterwards in alcohol, until they became sufficiently hardened for making thin sections. The sections were first examined in glycerine without previous staining, and a second time examined in the same liquid, after coloring them with carmine. From the large number of vesicles examined I was enabled to trace the whole process from its commencement as a small effusion of serum, to its termination by absorption of the liquid ; or escape of the contents by rupture of the cells covering the vesicle.

The liquid comes from the blood-vessels of the papillæ, and if the vesicle is very small the entire liquid comes from a single papilla. It passes through and between the cells of the lower malphigian layer and collects in different situations in different vesicles. There is no definite restricted location for the first collection of the liquid, though the rule is for it to collect in the upper malphigian layer at a distance of two or three layers of cells from the lower surface of the corneous layer. Sometimes, however, it collects immediately beneath the corneous layer, between this layer and the upper surface of the cells bordering on the stratum corneum, i. e., between the malphigian and corneous layers of the epidermis. If but a single papilla is affected, that is, if the liquid comes from the blood-vessels of a single papilla, the vesicle has but a single chamber (see figure 1). The liquid at the place of collection presses the cells apart in every direction. On this account the cells become changed in form. They are gradually flattened and drawn out, more especially those cells which line the sides of the vesicle. The more the vesicle increases in size the more the cells are flattened out, until they at last appear as fibres in which no nucleus is visible. The cells forming the summit of the vesicle are not so much flattened, and even when the vesicle bursts and the liquid escapes to the free surface, this occurs, not so much by a flattening out of the cells forming the covering, as by a rupture and separation of these structures. In fig. 4, where the vesicle has attained a large size, the cells of the malphigian layer immediately beneath the stratum corneum will be seen to still maintain much of their original shape. The cells of the corneous layer at an early stage of the vesicle are affected, and in different places over the vesicle become detached from each other, leaving spaces filled with a watery fluid. On this account a portion of the corneous layer is frequently removed even when the vesicles do not burst. The blood-vessels in the papillæ are at first but slightly changed, and but few round cells are found outside of their walls ; but in the later stages they become more dilated; though they seldom become what one would call widely dilated. In these later stages also out-wandered round cells appear in greater number in the papilla, and passing in the same direction as the effused serum, they are found also in the malphigian layer and within the vesicle. Sometimes the collection of those round cells is so great in the malphigian layer that it is impossible to distinguish the form and outlines of the cells forming the lower two or three cell-layers of this structure (see fig. 4). The serum in passing from the papilla to the place of collection causes marked changes in the form and appearance of the cells between which it passes. They become drawn out, paler in color, and less granular in appearance from the imbibition of serum. Generally the change of form and appearance is so great that their outline becomes indistinct, and only occasionally is the nucleus to be seen. Sometimes they appear to reach from the corium to near the corneous layer. It is, however, frequently impossible to see where they terminate, as the malphigian layer has more the appearance of being composed of long bands or fibres than of cells.

Thus we see in the case of a single small vesicle that the change in the parts depends upon the age of the vesicle and the amount of fluid effused, consequently a vertical section of such a vesicle would show different appearances according to the period at which it would be examined. In the earliest stage only the cells of the lower malphigian layer would be drawn out, and those cells surrounding the liquid slightly flattened. But few round cells would be seen, and the blood-vessels of the papilla would be scarcely changed. The number of layers of cells from the upper malphigian layer lying betwen the vesicle and the corneous layer would be greater than in a later stage. This of course would not be true of those cases in which the liquid at the commencement is situated between the malphigian and corneous layers.

In the later stages, the vesicle is larger, the cells more flattened, their margins more indistinct, the blood-vessels more enlarged, and a greater number of round cells present in the papillæ, malphigian layer and vesicles. The liquid will also lie nearer the corneous layer and the corium (as the vesicle increases in size in all directions),

Fig. IV.

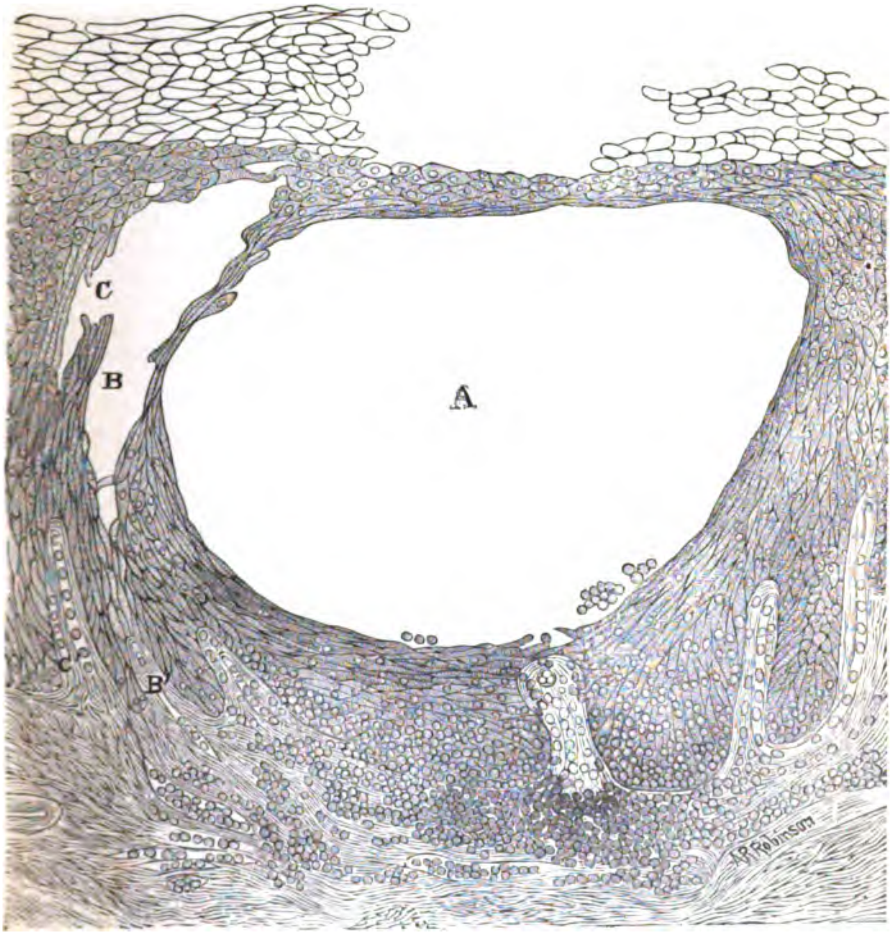


FIG. IV. A large vesicle and two smaller ones. The large vesicle is of a few days duration, and the entire section shows changes which are described in the text. Pus cells are present in great number in the liquid of such a vesicle, and in the structures directly beneath it. Here the origin of the vesicle *A* from the papilla beneath it is very distinct. Also the origin of the vesicles *B* and *C*, from their respective papillæ *B'* and *C'* is well marked. The vesicles *B* and *C* have become united by rupture of previously separating bands. Part of the corneous layer has here become removed.

In all the drawings the corneous layer is represented by non-granular, non-nucleated cells, with the exception of a few cells in Fig. III., but in reality there was not this sharp distinction in the sections. Where the corneous layer is so thick as in these specimens, very many of the cells have a more or less distinct nucleus, and occasionally some granular matter, and they color in carmine. Only when the corneous layer is thin, is the line of separation well defined.

and the corneous layer will be more broken up. Thus it is clear that from a single vesicle or a single section the structural changes which occur in this or any other vesicular disease cannot be found out.

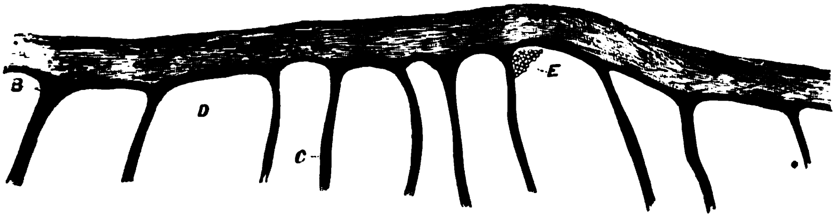
If more than one papilla is affected the appearance is changed, though only in some points. The liquid which comes from the different papillæ does not at first collect in the same place, but the liquid from each forms a separate vesicle, which afterwards unite and form a single larger vesicle. In figs. 3 and 4 such a condition is represented. The condition of all the cells except those between the different vesicles is similar to that already described as occurring when only a single papilla is affected. The cells lying between the different vesicles become flattened out into long fibres, and their nucleus gradually disappears with the lengthening out of the cell. In figs. 3 and 4 we have three vesicles separated by two bands composed of cells from the malphigian layer. As the vesicles arise from the papillæ these bands therefore must, and do correspond to the interpapillary portion of the stratum malphigii, and their size depends consequently upon the size of the vesicles and the resulting amount of pressure exerted upon those bands by the enclosed liquid. At first they are nearly as broad as the interpapillary space ; but gradually become thinner and thinner, and the cells composing them more and more flattened and drawn out, until finally they are ruptured, and the vesicles which it had previously separated become united. In fig. 4 the vesicles b and c have become thus united. Therefore we are not justified in saying that a given vesicle is chambered because such bands are present, since they separate different vesicles from each other and not different parts of one vesicle. If the affected papillæ adjoin each other, as in figs. 3 and 4, and especially in fig. 3, then they may appear to the naked eye as forming a single vesicle. A very common occurrence in this disease however is the formation of bullæ from the coalescence of two or more vesicles. In this case the vesicles are originally separated from each other by a greater or less distance according to the number of papillæ lying between them. When this occurs the vesicles spread, in the usual manner, and the liquid extending horizontally between the cell layers, the vesicles unite before the summit is ruptured. By this union of the effused liquid bullæ are formed, corresponding in size to the amount of liquid contained in the coalesced vesicles. The liquid passes horizontally either between the corneous and malphigian layer, or between the cells of the latter, and the intervening band is ruptured in the same manner and its cells become changed in the same way as when the vesicles arise from adjoining papillæ, as already described. This union of separated vesicles and consequent formation of bullæ is accidental, depending upon the amount of resistance offered to the escape of the liquid to the free surface by the structures forming its covering, and upon the distance between the separate vesicles. The disease must therefore be regarded clinically as a vesicular and not as a bullous eruption, though that is a matter of little importance, as the line of separation is so ill defined and merely arbitrary.

In the later stages of the disease, in which several adjoining papillæ are affected, the cell infiltration is greater comparatively than when a single papilla is affected. Instead of being restricted to the papillæ there is considerable round-cell infiltration along the course of the blood-vessels close to the mucous layer, between the papillæ. This infiltration of the upper part of the corium and into the malphigian layer is well seen in fig. 4. On account of the amount of cell infiltration into the latter their cells are no longer to be distinguished. This out-wandering of round cells accounts for the occasional opacity of the vesicles in the later stages, as they appear also in the liquid, as I have already written. No change whatever was to be found in the subcutaneous tissue beneath any of the vesicles. The sweat glands were found to be perfectly normal, and there was no distension whatever of their ducts with sweat. In one case the sweat duct was the principal structure separating two vesicles and delaying their union. Neither are the local changes of a catarrhal nature, as suggested by Mr. Hutchinson, as the cell infiltration consists only of round cells, and not of spindle-shaped or epithelial-like cells, as in catarrhal inflammations. As regards the nerves, they appeared quite normal. I studied carefully a considerable number of sections of nerve fibres, and I do not believe that they are changed at their periphery ; at least in such a manner as to be observable with the miscroscope. I believe the disease to be a neurosis, and dependent upon a change in the central nervous system not of the brain but of the spinal cord. Hence the little value of local applications in this affection.

We thus see that this disease is not one of the previously known vesicular or bullous diseases, but an affection entirely distinct in its clinical characters and in the changes which occur in the part affected.

In giving a name to this disease I have been guided by the wish not to add a new name to an already overburdened nomenclature, as is that of skin diseases. The term dysidrosis, as used by Dr. Fox, has been shown to be such an incorrect term, that it must be entirely discarded. As the disease so frequently attacks the feet as well as the hands, the term cheiro-pompholyx, as given to it by Mr. Hutchinson, cannot be retained. Recognizing, however, Mr. Hutchinson's claims and also the fact that the term pompholyx has not been employed by recent writers to designate any skin disease, the term pemphigus being employed instead of it, I have chosen to name it simply pompholyx. It is not intended by the use of this term to signify that the disease has any relation with pemphigus, indeed a study of its clinical characters and the mode of formation of the vesicles will show that it bears no closer relation to pemphigus than it does to herpes. I therefore use the term pompholyx to represent this disease, and think that it should no longer be synonymous with pemphigus, but that the latter should be used to denote pemphigus as understood by all modern writers, whilst the term pompholyx—a different word but also signifying a bleb—can be employed to designate this affection whose clinical history and

Fig. V.



A. Corneous layer. *B*. Upper Malpighian layer. *C*. Inter-vesicular bands. *D*. Portion of vesicle. *E*. Pus cells in vesicle.

This section was taken from a bulla five-eighths of an inch in diameter. The bulla was composed of 15 or 20 vesicles ; it was of several days duration, and the liquid contents contained an immense number of pus cells. Some are still to be seen at *E*. In removing the covering of the bulla, the bands separating the different vesicles became torn apart. Previous to this artificial rupture the bands stretched from the lower to the upper Malpighian layer. All the vesicles were situated between the cells of this layer, and separated from the corneous layer by two or more layers of cells of the rete Malpighii. This drawing, as well as the others, shows that the liquid very rarely collects between the corneous and Malpighian layers, a circumstance which accounts for the unfrequent bursting of the vesicles or bullæ.

In this section the cells composing the bands were so flattened out that they appeared only as fine lines. The cells of the upper layer, which formed the upper boundary of the vesicles, were also greatly flattened and very indistinct. The corneous layer was but little changed.

The portion of skin from which this section was taken, was removed on July 31, 1877, the disease having recurred upon his ceasing to take the arsenic. This was as large a bulla as had ever appeared during the disease.

nature I have here endeavored to describe. I hope the term will meet the approval of Mr. Hutchinson and dermatologists in general.

356 West 42d St., New York City.

3

ON THE ETIOLOGY

OF

HEREDITARY SYPHILIS.

BY

FREDERICK R. STURGIS, M. D.,
CLINICAL ASSISTANT MANHATTAN EYE AND EAR HOSPITAL, NEW YORK.

[*REPRINTED FROM THE NEW YORK MEDICAL JOURNAL, JULY*, 1871,
AND JULY, 1873.]

NEW YORK:
D. APPLETON AND COMPANY,
549 & 551 BROADWAY.
1873.

ON THE ETIOLOGY OF HEREDITARY SYPHILIS.

PART I.

The idea has for a long time obtained in works on venereal, that a father may procreate a child which shall show evidences of syphilis without the mother being infected at all; in other words, that so-called syphilitic semen has the power to transmit the disease to the ovum alone, and thence to the child, while the mother who furnishes the ovum, and of whom the fœtus is a most intimate part, whose blood circulates through and nourishes this diseased product, escapes. Syphilis is essentially a poisoning of the blood in which the virus is supposed to be carried throughout the system, and by which it is transmissible.

Now, how the blood of the fœtus can be charged with this active transmissible poison, can circulate through the mother's arterial system without producing the disease in her, appears incomprehensible. Either our belief that the virus of syphilis is contained in the blood is incorrect, that Pellizaris's experiments of transmission of the disease by the blood are false, or else we must consider that the reported cases of healthy mothers giving birth to syphilitic children are untrue.

To look at it in another light: it is a pure assumption on our part to say that the semen of a person afflicted with syphilis must be diseased, and capable of transmitting the infection. The only ground upon which it rests is that syphilitic fathers have syphilitic children. If the semen is diseased, of course the urine, the sweat, the saliva, the tears, the milk, in a word, all the secretions and excretions of a syphilitic person must likewise be syphilitic and capable of transmitting the disease. I scarcely think there is any medical man who would advance such a statement, or who would find any proof to support it. Since the day when Cardinal Wolsey was accused of attempting to transmit syphilis to his royal master by whispering in his ear, such cases have been looked upon as idle fables, and have never commanded the serious attention of the profession.

Any one looking over the reported cases, where, of the two parents, only the father is diseased, will be struck with the meagre details of the mother's history; she is often barely noticed. Where she receives something more than a mere mention of her existence, it is usually in such language as, the mother is and has been perfectly healthy, or, the mother has never presented any symptoms of the disease; and sometimes she is examined, when the report is, the mother was examined and nothing suspicious was found.

Nor do I consider objections to such bare and unsatisfactory histories as these mere cavil. When it is considered how imprudent it often is to arouse the mother's suspicions by any questions about herself; how reticent women are upon such matters, even when they know about them; how far from uncommon it is for the earlier symptoms to be entirely overlooked, or, if noticed, to be ascribed to some other cause, the difficulty of obtaining a correct judgment in these instances can be better appreciated. For the most part the cases of infection by the father alone are derived from the older writers, and, becoming stock-cases, are copied *ad infinitum*, by every one who writes upon the subject, without the slightest question of their truth being raised. Diday, one of the advocates of this theory, when writing upon the subject in his work on Infantile Syphilis (Sydenham Society Publications, p. 17), gives but one case of his own observing, and curiously enough, although the father had undoubted syphilitic symptoms both before and after his wife's impregnation, and ought therefore to have had a syphilitic child, it was born and continued to be healthy. At the time of reporting the case the child was two years old.

Besides the causes already mentioned, which sometimes render a correct solution of the problem impossible, there is one which has not been mentioned. It sometimes occurs that, in those cases where the mother is examined, she is found free from all symptoms. Is it therefore proper to conclude that she is to be exempted from having any share in the disease of the child? No, and for this reason: Between the disappearance of one set of symptoms and the appearance of the next, there is an interval of freedom from all signs of the disease, the so-called period of incubation. During this period it is often impossible to tell by an examination whether the patient has had syphilis or not. It may be objected that the induration left after the chancre, and of the inguinal glands, or the presence of cicatrices, would give a clew to the truth when all else fails. Undoubtedly glandular induration and that of the chancre, when present, are valuable diagnostic signs, but, unluckily for this view of the case, the former is not indelible, on the contrary, is frequently evanescent, and the latter in women is proverbially hard to find; in fact, is sometimes impossible to discover.[1]

Then, again, all chancres do not have the ligneous hardness usually associated with them; they may be "parcheminé," and at the date of the examination, which is usually made some time after the inception of the disease, all signs of the induration have disappeared. Cicatrices do not occur until during the later stages of the disease, and a person may have had the earlier secondary manifestations, which have disappeared without leaving a trace of their presence. Given a case under such circumstances, how is an examination alone to enable us to decide whether the patient has or has not syphilis? Viewed in this manner, Ricord's case, which he describes in the fourteenth chapter of his "Lettres sur la Syphilis," is capable of a different interpretation from that which this eminent surgeon gives it. It is copied here *in extenso*, because it is one so often cited in support of the theory of paternal transmission, and the clearness and accuracy with which it is related render it less liable to the objection of carelessness made to the majority of the cases reported:

---

[1] In this connection consult De l'Induration chancreuse chez la Femme, par Alf. Fournier; Annales de Dermatologie et de Syphiligraphie, t. 2ième, p. 46.

CASE I.—A young woman, accompanied by her husband, older than herself, consulted me with regard to her child, which had been put out to nurse. The child was infected with constitutional syphilis, which the mother accused the nurse of having given it. The child was almost completely covered with a moist squamous syphilide; the pourtour of the anus and of the lips was the seat of ulcerating mucous patches. The child was six months old; the nurse's statement was, that the first symptoms showed themselves at the age of six weeks.

The mother and the husband both declared to me that they had never had the disease, and the most careful examination failed to show any thing either present or past. The nurse, also, examined with the greatest care, seemed to me to be perfectly healthy. Her child, which she was suckling at the same time as the diseased nursling, was perfectly well.

I was exceedingly puzzled in my attempts to discover the origin of this child's syphilis, when, the next day, I was consulted by a young cavalry-officer for a plantar and palmar psoriasis. He questioned me, with the most touching solicitude, with regard to the illness of the child which had been brought to me the day before, and he confided to me his share in the affair; but, being ignorant of the laws of inheritance, he was surprised at the child being diseased, especially as he said he thought himself cured, and had not a single symptom of the disease when he had connection with the mother, who entirely escaped infection.

In this case there are four parties—father, mother, nurse, and cavalry-officer. Of these only one, the latter, shows symptoms of the disease. The father and nurse can be excluded; the former, because it makes no sort of difference whether he did or did not have syphilis, the latter because of her child's good health; had she been syphilitic, it would have been so also. Two are left, mother and cavalry-officer. He undoubtedly is one source of the child's disease, and the question is, was he the only one. His symptoms are syphilitic psoriasis; how far back do his contagious symptoms date? This eruption is generally a late form of the disease, but may occur chronologically anywhere from six or eight weeks to two years and more after the primary lesion.[1] The child is six months old, which, added to the nine months it was *in utero*, makes fifteen months. Fifteen months back the officer confesses to have had syphilis, and is it so improbable to suppose that, notwithstanding his belief that he was well when he had connection, he was mistaken, and really did have contagious symptoms at the time he had his intercourse with the mother? Is it so improbable that the mother was diseased, and may have known nothing about it? I believe not, and in proof of my assertion I refer the reader to two cases mentioned in Bumstead's work (pp. 478, 479), where the patients had incontestable signs of syphilis, and were yet totally ignorant of the fact. At the time she was examined by Ricord she was either well, or, what is not unlikely, in the period of transition, when she would not probably have had any symptoms indicative of the disease, but which she might have shown had Ricord had an opportunity of examining more than once. I am well aware how readily this explanation might be looked upon as more ingenious than correct, but, when viewed by the results of other cases which I shall quote, it will not, I trust, appear so far fetched. Since I wrote the foregoing paragraph, I chanced, while looking over Zeissl's work, "Lehrbuch der constitutionellen Syphilis," p. 317, to find the following statement, which to a certain extent is confirmatory of my view: "I have noticed as a rule that women, whose husbands are suffering from so-called latent syphilis, not only quickly fade and lose their former blooming appearance, even if they have never been pregnant, nor had any miscarriages, but that sooner or later in such leucæmic women glandular tumors and ostroscopic pains make.their appearance together with nodes upon the sternum, cranium, tibia, etc., and that these symptoms disappear under anti-syphilitic treatment only. *I recall to mind a case where the man affected with psoriasis palmaris was the father of two syphilitic children who died soon after birth. The mother remained apparently healthy until after the second confinement, when an undoubted psoriasis palmaris showed itself in her.*"

---

[1] Consult Cullerier, "Atlas of Venereal Diseases," translation by Bumstead, p. 284; Bassereau, "Traité des Affections de la Peau symptomatiques de la Syphilis," p. 498; Bumstead, "Pathology and Treatment of Venereal Diseases," pp. 406, 408, 546; Reder, "Pathologie und Therapie der venerischen Krankheiten," p. 246; Müller, "Compendium der venerischen Krankheiten," p. 233.

Cullerier, in 1854, in a paper read before the *Société de Chirurgie de Paris*, advanced the statement that the influence of the father was *nil* in the contamination of the fœtus by hereditary syphilis; that it depended upon the mother; so long as she remained free from disease, the child was safe. In the introduction to his work, "Précis iconographique des Maladies vénériennes," he says: "I have since met with new facts which corroborate those I have already observed. I have under my care seven children affected with hereditary syphilis. In six, I have verified the disease in the mother. In the other, the father and mother both denied any previous disease, so that one cannot be accused of it more than the other. I have known eight men suffering from secondary syphilis impregnate their wives, and their children are exempt." He gives two cases in full, which occurred in his practice, and which first induced him to differ from the generally-received opinions of the day:

Case II.—An officer in the French Army contracted an indurated chancre, followed by a squamous syphilide, mucous patches of the anus, ulcerations of the mouth, impetigo of the scalp, alopecia, and induration of the cervical ganglia. After following treatment for fifteen days, he was salivated. In spite of all this, he married, and shortly after impregnated his wife. She escaped infection, and the child also. At the time the case was reported, the son was eighteen years of age, and had never shown the slightest symptom of the disease (*op. cit.*, p. 87).

Case III.—Indurated chancre six months before marriage; subsequent symptoms: roseola, cervical adenitis, and trouble in the throat. During this condition of the husband the wife became pregnant. She escaped infection. The child was born healthy, and has remained so for fifteen years (*op. cit.*, p. 88).

These cases of Cullerier were followed by observations bearing upon this subject published by M. Notta in 1860, and by M. Charrier in 1862. The conclusions these gentlemen arrived at were similar to those of Cullerier, viz., that, provided the mother escaped infection, the children were safe. I append their cases in a tabular form:

SYNOPSIS OF M. NOTTA'S CASES OF INHERITED SYPHILIS.—ARCHIVES GÉN. DE MÉDECINE, MARCH, 1860.

Cases.	Condition of Father.	Condition of Mother.	No. of Children or Pregnancies	Condition & Ages.
Case 1.	Indurated chancre, etc. At time of marriage, he had an exostosis of the ulna, and a syphilide on the outer surface of the forearm. Followed four years afterward by orchitis of both testes; his syphilide on the arm still continuing.	Healthy.	2.	Healthy. 7½ and 6½ years.
Case 2.	Indurated chancre, mucous patches, alopecia, etc. One year after, all the symptoms having disappeared, he married. Two months after marriage, mucous patches returned on the tongue, which lasted one and a half year. Free from symptoms he impregnated his wife, when a month after he presented himself with palmar psoriasis.	Healthy.	1.	Healthy. 22 months.
Case 3.	Indurated chancre, etc. Three months after marriage, he presented mucous patches of the scrotum, in the throat, and round the anus. At this time his wife became pregnant. The mucous patches continued thro' this and at the time of his wife's second pregnancy.	Healthy.	2.	Healthy. 3 and 2 years.
Case 4.	Indurated chancre, mucous patches about the scrotum and anus, and articular pains. At time of marriage, free from symptoms. Two months after marriage, squamous eruption on scrotum, which continued during his wife's pregnancy.	Healthy.	1.	Healthy. 7 months.
Case 5.	Indurated chancre, etc. Three years after marriage ulcerating gummata of the arm.	Healthy.	6.	Healthy. Ages of first two only given, 12 and 11 years.
Case 6.	Phagedenic chancre, followed two years later by orchitis and papular eruption. Between the chancre and his subsequent symptoms had noticed nothing suspicious. The orchitis and eruption came on at the time of his wife's confinement	Healthy.	1.	Healthy. 15½ years.
Case 7.	Indurated chancre, followed by mucous patches in the throat, papular eruption of the scalp, cervical adenitis. Two years later, cerebral symptoms indicative of tumor of brain, incomplete hemiplegia, head-	Healthy.	1.	Healthy. 15 months.

SYNOPSIS OF M. NOTTA'S CASES CONTINUED.

Cases.	Condition of Father.	Condition of Mother.	No. of Children or Pregnancies.	Condition & Ages.
	aches, and nocturnal pains. Recovery under use of iodide of potassium. He then married.			
Case 8.	Indurated chancre, mucous patches about the anus, nocturnal pains, alopecia, and engorgement of cervical glands. Three years after recovery he married.	Healthy.	1.	Healthy. 2 years.
Case 9.	Father had syphilitic manifestations anterior to the birth of the child. At time of the report a syphilitic eruption.	At time of conception had mucous patches of the throat, alopecia, nocturnal pains, and headache. Three years elapsed between the two pregnancies, during which time neither showed any signs of syphilis.	2.	The first child, when six months old, mucous tubercles about the anus and an eruption over body. The second child, eruption on body & mucous patches about scrotum.
Case 10.	Mucous patches in the mouth, alopecia, and a syphilide of the scalp. After recovery from these symptoms he married. Three months after, he had a syphilide which covered his penis and testicles. Three years later cerebral symptoms.	Four months after marriage, mucous patches of the vulva, alopecia, and headache.	1.	Two months after birth cachexia, blotches, and ulcers over the body.
Case 11.	Indurated chancre three weeks before marriage.	Indurated chancres on the labia minora, seen five months later, with mucous patches about the anus and vulva.	1.	Died at the sixth month of intra-uterine life.

Here, again, are found precisely the same results as in M. Cullerier's two cases, viz., the child inherits the disease only when the mother has syphilis; provided she has escaped infection, it makes no difference whether the father has had it or not. In this series are four sets of cases:

1. Where the father at the time of conception has syphilitic symptoms, or where the diathesis is present, but the mother is free from disease.

2. Where the father shows no symptoms, nor is the diathesis apparently present, although he has had an anterior syphilis. The mother does not suffer from the disease.

3. Where the father has had syphilis, but shows nothing of the disease. The mother has had an anterior syphilis; and,

4. Where both are syphilitic at the time of conception.

Among these four sets of cases, eighteen children are born, fourteen for the first, and four for the last two sets. Of the first two sets, not one child is diseased; of the last two, all.

In other words, when the mother escapes infection, the children are healthy, but, where she is syphilitic, the children are so also.

SYNOPSIS OF M. CHARRIER'S CASES.—ARCHIVES GÉN. DE MÉDECINE, SEPTEMBER, 1862.

Cases.	Condition of Father.	Condition of Mother.	No. of Children or Pregnancies	Condition of Children and Ages.
Case 1.	Primary lesion one month before marriage, followed by roseola. Wife became pregnant during his treatment.	Healthy.	3.	Healthy. 6, 4, 2½ years.
Case 2.	Palmar syphilide.	Mucous patches during pregnancy.	3.	One child died one month after birth with syphilitic symptoms. Two miscarriages, one at four months, the other at seven. The latter was born with mucous patches about the anus.
Case 3.	Indurated chancre, roseola. Ecthyma at time of wife's pregnancy.	Healthy.	1.	Healthy. 4 years.
Case 4.	Rupia and osteoscopic pains. At time of wife's pregnancy, node on clavicle and nocturnal cephalalgia.	Healthy.	1.	Healthy. 8 months.
Case 5.	Healthy.	Roseola and mucous patches four months before marriage. At time of marriage, impetigo of the scalp. Pregnancy one month after marriage.	2.	Abortion at third month. Children covered with copper - colored spots.
Case 6.	Mucous patches about the anus, three months before marriage. At time of marriage, specific ulcerations on the tonsils.	Healthy.	1.	Healthy. Age not given.
Case 7.	Before getting syphilis, he had two healthy children. Chancre (indurated), followed by impetigo of the scalp and cervical adenitis. One year later, ecthyma, and one year later still he had exostoses.	Healthy.	3.	Healthy. 4, 3, and 2 years.

In the second case on the list is a singular fact, which could not well be expressed in the tabular form, but which is none the less worthy of mention. Here the man's wife contracted the disease, but his mistress (for he had one) did not. Within a fortnight of the time that the wife was delivered of the seven-months' fœtus with the anal mucous patches, the mistress had a child, which up to the age of three years had never shown any symptom. Objection may be made to this child being by some other man, but M. Charrier answers that in this manner: "Cet enfant ressemble en tout point à son père, et qu'il a comme lui *une conformation toute particulière des pouces*, que les *enfants légitimes* avaient également presentés."

Here are eight observations, in seven of which the father is syphilitic. In six of these eight, the mothers do not contract the disease; in two they have syphilis. What do we find? Wherever the mother is healthy, the children are so also; wherever the mother is diseased, the children are likewise diseased. And, in one case, this is strikingly exemplified: the husband communicates the disease to his wife, and all the children are syphilitic; but his mistress, who escapes infection, presents him with a perfectly healthy boy.

To close this paper, I quote one more case, which is particularly interesting and instructive. It is reported by Dr. Van Buren, of New York, in the first volume of the *American Journal of Syphilography and Dermatology*, and clearly demonstrates the fact which this paper seeks to show. The early part of the history, so far as syphilis is concerned, is not given, inasmuch as the patient declined an examination, but there is every probability that he had the disease at the time he married. Three years after his marriage (1861), he had "*retinitis syphilitica*," complicated by "*amblyopia* potatorum." Eight years after his last symptoms (in 1869), and eleven after his marriage, he came under Dr. Van Buren's care, with the following symptoms: "Irregularly nodulated and tender shins, superficial ulcers at the angles of the mouth, a yellowish patch on one tonsil, and a circular scaly spot as large as a sixpence on one of his palms." The mother was at the time of her marriage perfectly healthy, and had never been married before. In 1860, two years after her marriage, she also came under Dr. Van Buren's care, and the following is her record: "From the enjoyment of brilliant health at the time of her marriage, she had become gradually pale, weak, and emaciated, without obvious cause. She had nursed both of her children. I was unable to make out any symptoms of secondary syphilis, save a characteristic ulcer upon the side of the tongue, of at least six months' duration (query, was the ulcer or the syphilis of six months' duration?). She had also a gummy tumor the size of a hickory-nut, in the left *labium* *majus.*" She ultimately seems to have recovered, under treatment, from the syphilis, to die in 1867 of peritonitis due to an ovarian enlargement.

This couple have four children, first one born May, 1859, healthy at birth, and remained so when last seen, seven years after. Second child born June, 1860, with defective development of brain and spinal cord. This child, as far as I can learn, never manifested any of the ordinary evidences of congenital syphilis. It showed a great deal of tenacity of life, although idiotic and paraplegic, and died at the age of five, from the consequence of whooping-cough. The third child was born January, 1862. Dr. Van Buren received from the family physician, April 9, 1862, a letter as follows: "The child appeared quite healthy at birth and continued so until three weeks ago (i. e., two months after birth), when an eruption made its appearance (complicated with excoriations around the mouth and nose), which gradually invaded the whole body, and was in the writer's opinion 'decidedly syphilitic.' There are at present no marks of morbid action in the mother, but she has resumed the use of the corrosive sublimate, and is nursing the child." The boy had subsequently periostitis of the tibia and ulna, and in 1868, at the period of his second dentition, he had "unmistakable evidences of the disease upon his incisor teeth, the development of the enamel quite imperfect—in fact, what I call syphilitic teeth."

The fourth and last child was born October, 1869. The child is in "excellent health, having shown no evidences whatever of disease."

Here is the case of a healthy woman, free from disease, married to a man who, if he does not present evidences of syphilis, is under the influence of the diathesis at the time of his marriage. They have four children; are they all diseased? According to the generally-received opinion, they should have been. Throwing aside all preconceived ideas, what are the facts of the case? The first two children are free from syphilis, for, in the case of the second, idiocy and paraplegia, in the absence of other symptoms, are not sufficient to establish a diagnosis due to hereditary syphilis, merely because the father is syphilitic. The third child is beyond doubt diseased, and what is the condition of the parents? Two years before this child was born the mother had a gummy tumor and an ulcer on the tongue. One year before the child's birth the father had "retinitis syphilitica and amblyopia potatorum." Both diseased; when did the mother's trouble begin? Dr. Van Buren thinks during the first pregnancy and lactation. But if so, unless acquired at a late stage of the pregnancy, how is the first child so healthy, and why does not the second one show syphilitic symptoms? They do not, however. It is the third one only which shows evidences of hereditary taint. The infection probably occurred somewhere between the second and third pregnancies. Four months after the birth of the second child the mother shows the symptoms detailed above, and "which were at least of six months' duration." From that it would seem that the mother became diseased at the very last part of the second pregnancy. If this view of the case be the correct one, we see these two facts: 1. That a mother begets non-syphilitic children so long as she is not infected, even though the father is syphilitic; and, 2. The moment she is diseased, the children are inevitably so. One other and still stronger fact: when the mother recovered, the next child was healthy, although the father was still under the influence of the diathesis; for two years after the child's birth he came under observation with marked symptoms of syphilis.

In the next paper I shall examine cases where the paternal influence is admitted; not all, for that would occupy too much time and space with no good result, but the most prominent ones, and show wherein the defects lie, so far as their scientific value is concerned. My object in writing these articles is to call attention to the fact of how little is known of the etiology of hereditary syphilis, and how needful it is, with our advanced knowledge upon the subject, to revise our former beliefs. To do this effectually, we must give up our blind reliance upon old authorities when they clash with newly-observed facts, and examine the question for ourselves, for in medicine, as in the other sciences, skepticism is the first step toward sound knowledge.

PART II.

In my previous paper on this subject, published in the New York Medical Journal for July, 1871, I attempted to show by a series of cases, gathered from various sources, that, for a child to become syphilitic by inheritance, the mother must be diseased; but, were she to escape infection, it made no difference whether the father had syphilis, so far as the child itself was concerned. To put it in a few words: the semen is *per se* incapable of transmitting syphilis, I pointed out where the error lay in pronouncing the woman sound because nothing could be found upon her person, or because she denied having had the disease. I also noticed that in very many of the detailed cases the reporter seems to have been satisfied with the mother's statement of her health, or with the husband's avowal that she was quite well; in others, the woman was not seen at all; and in nearly, it not quite all, no mention is made of the woman having been examined, from which we are left to infer that she was not. Such defective proofs as these should hardly be brought forward or accepted in support of the paternal influence in hereditary syphilis, when there are such strong and well-authenticated cases for the contrary belief. There is sufficient evidence to throw doubt upon the truth of the old doctrine, and my object in writing these articles is to show that, although the theory of the paternal influence *may*, perhaps, be correct, the proofs upon which it rests are defective, and that the belief which is so general upon the subject is based upon facts which are open to severe criticism. In selecting the cases for criticism I have copied from those whom I believe to be the best and most trustworthy defenders of this doctrine, from such men as Hutchinson of London, Langston Parker, of Birmingham, Diday, of Lyons, and others of equal weight. I shall report their cases in full, and then show in what respects they are defective as proofs of the point in question.

Mr. Hutchinson, in the second volume of the "London Hospital Reports," 1865, reports three cases where the children receive the taint from the father alone, the mother escaping infection. He gives in all eight cases; of these, five, or about sixty per cent., are born of parents who are both diseased. In the other three it remains to be seen how real the mother's good health was.

I. (page 182.)—"*A Child born Six Years after his Father contracted Syphilis, where the Latter had for long been free from Symptoms. Severe Disease in the Child. Progressive Improvement in the Younger Children.*

"Mr. D., a big, powerful Scotchman, presenting every appearance of the most robust health, brought me his eldest son, a thin, dwarfed starveling boy of fourteen, the utmost contrast to his father. The boy's tibiæ were covered with nodes, and he had nodes also on the bones of both forearms; his face was typically syphilitic, his corneæ were opaque, and his test teeth were deeply notched. On a subsequent occasion Mr. D. admitted that before marriage he had suffered from syphilis, but said he had soon got well and had remained so ever since. He has still some iritic adhesions in one eye. At a later period Mrs. D. was also my patient, on account of a troublesome ozæna. She displayed no positive symptoms of syphilis, nor did she appear to have suffered from such. From her I obtained the following facts as to herself and her children: All the latter were brought for my inspection. We appear to have a good instance of the younger part of the family escaping the taint. Mrs. D. has nursed all her children, and, excepting 'debility,' has considered herself in good health.

"During her early pregnancies she repeatedly had aching pains in the left eye (eighteen years ago). Gradually she found that the sight with this eye was much impaired. She thinks it has been as bad as it is now for six years at least. She describes distressing pain in the brow and temple, occurring at times, and lasting a day or two, always in the left side. For many years she has been quite free from this frontal headache. Her eye was never visibly inflamed.

"The pupil of the defective eye (left) is smaller than the other, not half the size and decidedly smaller than natural, but quite round. With this eye she can only just make out No. 19, holding the book to one side and very near to her eye. There is nothing abnormal in the front parts of the eye.

"Mrs. D.'s family:

"1. A girl, stillborn.

"2. A girl, died at two years old, of scarlet fever.

"3. A boy, died, aged five weeks, of 'yellow jaundice.'

"4. Is our patient. The very type of syphilitic diathesis; keratitis, notched teeth, earthy complexion, and numerous nodes (now aged fourteen).

"5. A girl, aged twelve, well grown, but of slightly-marked syphilitic physiognomy. Upper central incisors notched, but not so deeply as her brother's. She has had keratitis, and in both eyes are extensive synechiæ. It is about a year since her eyes inflamed.

"6. A boy, aged ten, has perfect teeth of large size, good complexion. Has not suffered in his eyes.

"7. A girl, died, aged four, of whooping-cough.

"8. A boy, aged five, quite healthy.

"9. A boy, aged two, quite healthy."

Thus, out of nine children, only two show any thing which can be proved to be syphilitic (the fourth and fifth). Can the mother be looked upon as entirely healthy? True, neither the "*ozæna*" nor "*pain in the eye*" taken alone, is necessarily syphilitic, but considered together, with the fact that there has been extensive disease in the eye, renders it a question of doubt. Is it not likely the father infected the mother? Let us retrace our steps and inquire into the history. The child was born six years after the father contracted the disease.

(Page 182.) The boy is fourteen years old. It is twenty years, therefore, at the time the case was reported, since the father was infected. Eighteen years back, the mother, during her earlier pregnancies, had repeatedly "aching pains in the left eye, distressing pain in the brow and temple," etc. Were these symptoms due to iritis? Supposing it to have been that, the probability is in favor of it being syphilitic, because the husband had syphilis about the time of, and probably during marriage, and sixty per cent. of all cases of iritis occur in syphilitic persons.[1] He has had the disease twenty-five years, and has been married certainly eighteen, perhaps longer, for the wife's "*earlier pregnancies*" took place eighteen years ago. Whether the first or second we are not told, but, granting it to have been the first, we must allow one year for the woman to become pregnant in. They would have been married then nineteen years, and the husband would have contracted his disease only one year before marriage, perhaps not even as long. When did his iritis appear? before or during his marriage? Upon that point we have no positive evidence, but we can approximate to the time. Syphilitic iritis is one of the so-called transition symptoms between the secondary and tertiary stages, appearing as a tertiary as well as a secondary manifestation, and occurs from four months to two years and more after contagion.[2] Persons having iritis are not likely to have that and nothing more; they usually have mucous patches, eruptions, etc., in conjunction with it.[3] Is it so improbable to believe, then, that the husband had his iritis during his married life, together with other symptoms capable of infecting his wife? At any rate, although the evidence may not be strong enough to *prove* that the mother had syphilis, it is sufficiently so to cause doubt about her sound health, and whether the father was the only one of the parents who was diseased.

---

[1] Bumstead, "Pathology and Treatment of Venereal Diseases," third edition, p. 660, 1870. Wecker, "Études Ophthal.," tome i., p. 394.

[2] Cf. Bazin, "Leçons Théoriques et Cliniques sur la Syphilis, et les Syphilides," p. 69, 1866. Bumstead, "Pathology and Treatment of Venereal Diseases," p. 666, 1870. Lancereaux, "Traité Historique et Pratique sur la Syphilis," p. 190, 1866. Geigel, "Geschichte, Pathologie u. Therapie d. Syphilis," p. 283, 1867.

[3] Cf. Ricord, "Iconographie des Maladies Vénériennes," pp. 109, 117, 1862. Bumstead, *op. cit.*, p. 666.

II. (page 187.)—"*Case in Proof that Syphilis may be transmitted by a Father many Years after its Occurrence in Himself, and after his Apparent Restoration to Perfect Health.*

"The following case illustrates some very important laws in respect to the transmission of syphilis: 1. That the taint may be transmitted by the father only. 2. That it may be transmitted by a father who not only has no symptoms at the time, but who has been for seven years in good health. 3. That with the lapse of time such a taint dies out, and that the later offspring may escape any severe degree of contamination.

"Thomas J., a boy, aged thirteen, was brought to me at Moorfields, on March 19, 1863: he had syphilitic keratitis, characteristic physiognomy, and dwarfed teeth. I asked Mr. Dixon to see him, in order to verify my conclusions, and he quite agreed with me respecting them. The father of the lad came with him. He was a very robust-looking man; on inquiry, he gave me, with perfect candor, the following history: He had been married eighteen years, and was now forty-seven years of age; two years before he married he had a venereal sore, which was followed by a rash on the skin. 'It was hanging about him for a long time, five or six months at least.' When he married he was in perfect health, and has never since had a single symptom he could suspect of being venereal. I examined his tongue, the palms of his hands, etc., and could not find the slightest evidence of the diathesis. His wife was in good health at the time he married her, and remained so afterward, except that she was weakened by bearing a large family very quickly. Her first was born a year after marriage, and died a few hours after birth. Thomas J., our patient, was the sixth born, and the eldest living. He suffered in infancy very severely from snuffles, rash, sores at the corners of his mouth, etc.; his parents did not expect to rear him. There are five younger ones living, two girls and three boys, all (excepting one) healthy, and none have suffered from infantile symptoms. The one exception is delicate, but nothing special ails him. The wife died two years ago from an abscess in the back.

"We must add that the boy was not an example of extreme cachexia. His teeth were not so deformed as we often see them. His growth was good, and he had a fair degree of coloration. After the outbreak in infancy, until incipient puberty, he had been quite free from symptoms, and had enjoyed good health. The attack of keratitis was, however, a sharp one, and exceedingly well characterized; his hearing was not affected at all. In proof that the taint was slowly diminishing in his parent, we have the fact that the younger children have all lived and have escaped symptoms in infancy. Of course, the fallacy remains that his mother may have contracted syphilis as well as his father, either before or after marriage. Such a conjecture is, however, wholly unsupported, while the health of the younger children makes it highly improbable.

"The truthfulness of the father's statement is confirmed by the fact that the elder children all died, and, after careful consideration of the whole history, I am also of opinion that there is little doubt that this boy was born some years after his father contracted the disease, and that he has inherited the taint from his father only.

"I will now mention another case in which the probability seems very great that the taint has persisted for two years in the parent's system with sufficient virulence to infect the offspring even at the end of that period.

III. (page 189.)—"*Rash, Condylomata, and the usual Symptoms, in an Infant born Two Years after the Disease in its Parent, and after other Children had shown it.*

"On January 18, 1865, Mrs. J. brought me her baby, a year old, with a large forehead, and condylomata around its anus. She said that when born it was healthy, but that at six weeks old it became covered with rash and had snuffles in the nose. This rash lasted three months, and was at length cured by taking powders. The condylomata had now existed for six months. Mrs. J. had been married two years, and her husband had been throughout in excellent health; excepting once for ague, he has never been under medical care since his marriage.

"The first child was dead-born, at full time (boy).

"The second died at a month old, 'covered with rash, and with its nose stopped up.'

"The third, a girl, never had any symptoms whatever. I saw her, now a healthy, clear-complexioned girl of six years.

"The fourth, still-born, a seven months' child.

"The fifth, a boy, now aged three, quite healthy-looking, and never had any special symptoms.

"The sixth, the baby above alluded to.

"The mother has had no special symptoms. She is ailing when pregnant. She now has a doubtful-looking sore in the lower lip, but it is not positively characteristic."

In these two cases several points occur at once for criticism, but in the first place let us examine case No. 2. This loses much of its value as proof, from the mother not having been seen at all; she has died. Mr. Hutchinson assumes, on the husband's word, that she had never had syphilis. That can hardly be adduced as evidence for these reasons. The disease frequently goes unsuspected and unnoticed; the husband could not and probably did not examine his wife to see if she showed symptoms, and, had he, he would perhaps have been none the wiser. Mr. Hutchinson himself says, "the fallacy remains that his mother may have contracted syphilis as well as his father, either before or after marriage," but he then goes on to say, "Such a conjecture is, however, wholly unsupported, while the good health of the younger children makes it highly improbable." Grant that the conjecture is wholly unsupported in the mother's case, yet the statement of her freedom is also wholly conjectural, and as for the good health of the younger children making it highly improbable, I beg leave to differ. A syphilitic woman *may* entirely recover from her disease and bear *healthy* children; in support of this view, I refer the reader to Dr. W. H. Van Buren's case in the first volume of the *American Journal of Syphilography and Dermatology*, and quoted in my former paper in this JOURNAL, July, 1871. That argument, therefore, loses a great deal of its force.

The opinion expressed that there is little doubt that "this boy was born seven years after his father contracted the disease, and he has inherited the taint from the father only," is somewhat startling. Here we have the extraordinary belief that a man may convey a disease from which he has seemingly entirely recovered for seven years, of which he has had no symptoms for that length of time, and to make it still more remarkable, the woman, although incapable of bearing other than diseased children, herself escapes harm.

In summing up case No. 3, Mr. Hutchinson states: "It is highly probable, in this case, that the infant inherits a syphilitic taint from its father, he having had the primary disease at least two years before its birth, and having, during most of that time, been free from symptoms."

In the history of the case, nothing is said about the man's disease; on the contrary, it is stated that he had enjoyed "excellent health."

Why, then, accuse him more than the woman of syphilis? He is to all appearances as innocent of disease as she. In fact, more so, for what is this "doubtful-looking sore in the lower lip, but which is not positively characteristic," which she carries? Accusing him of syphilis would seem to be an *arrière-pensée* to account for the child's condition.

In reviewing these three cases, I claim that the details given are not such as to prove the entire innocence from disease of the woman, and, until clearer and stronger evidence is adduced, belief in the doctrine of the paternal transmission alone of the disease must be suspended. Let us see if any other cases will support this belief.

MARTINEZ Y SANCHEZ. *Thèse de Paris*, 1855, p. 30. *The only one given of his own Observation.*

"M. X., a medical man, had, near the close of his studies, contracted an indurated chancre in the balano-preputial fold; this chancre was followed by a confluent roseola and rheumatoid pains, symptoms which were dissipated at the end of some weeks by means of an energetic mercurial treatment (pills of protoiodide of mercury, mercurial fumigations, etc.). M. X. returned to his country, and, believing himself radically cured, did not hesitate to marry. At that time nothing could make him believe the possibility of having a diseased child, inasmuch as he had not had the slightest sign of constitutional syphilis. Eighteen months had passed by since the disappearance of the roseola and his marriage. His young wife became *enceinte;* the pregnancy went on to full term, and the accouchement showing nothing special. But the child, contrary to the father's belief, showed, five days after birth, pustules which were decidedly syphilitic, together with an acute coryza. It died at the end of twelve days. The father, much alarmed at this accident, the true cause of which he suspected, recommenced an anti-venereal treatment (liqueur de Van Swieten every evening), and continued it for two months. His hopes were not disappointed; he had a second child, strong and healthy, which up to the present time has shown nothing doubtful or abnormal."

There are, unfortunately, no means of judging of the length of time which had elapsed between the birth of the second child and the reporting of the case. The man's history is tolerably full, but the wife's is totally ignored; we are not even told if she is a healthy woman. Was he the only one treated, or, as frequently occurs in such cases, was she also included? The silence on her condition is much to be regretted, inasmuch as having the reports of cases where the disease of the mother is coincident with that of the children, and *vice versa*, it leads to the suspicion that the disease in the woman was ignored, or else overlooked. We are not told how soon, after the second treatment had been instituted, the second child was born. This is of some importance as regards the mother, for, if it were some while after, there was time, supposing the mother to have been infected, for her recovery, and hence the second child being born healthy. At all events, the case is lacking in such important details as to render it of comparatively little value in proving the point M. Sanchez wishes to.

VON BÄRENSPRUNG'S CASES. *Die Hereditäre Syphilis*, p. 87.

Out of ninety-nine cases reported by him, only two occur where the father was under the influence of the disease at the time of marriage, and during the wife's conception, where the children were not carried to full time, or were syphilitic at birth, and where the mother was *apparently* free from the disease. I say *apparently*, because, in reviewing the cases, we shall see if such was really the fact.

CASE I.—Six months before marriage, the man contracted an indurated chancre on the penis, for which he was treated by pills of protoiodide of mercury. Fourteen days before marriage, the following symptoms made their appearance: mucous patches on the tonsils, alopecia, and a papular eruption over the body. At his marriage, he still had these symptoms. He was treated by Zittman's decoction, and got well. His wife became pregnant soon after marriage, and was delivered of a six months' child, which lived only a few hours. It showed no marks of syphilis. Her health all this time was excellent, only that, a short time before the child was born, she had a slight scaly eruption on the scalp, and lost, not the hair of her head alone, but her eyebrows and eyelashes. She was examined, and, with the exception of the symptoms noted above, she had no signs of syphilis. The eruption was regarded as eczematous, and she was put upon decoc. sarsaparillæ c. senna internally, and unguent. hydrarg. præc. alb. externally, with simple diet. Under this course she recovered. A year and a half after her first confinement, she became pregnant again, and during the second half of her pregnancy the eruption and alopecia returned. She was delivered of an eight months' child, still-born, but well formed and free from syphilitic symptoms. He then goes on to say: "After a very careful examination of the whole body, I found nothing more than I found before, little spots covered with scales between the roots of the hair on the head; not a trace of glandular swelling nor any other symptom of syphilis. The *embonpoint* was good, complexion fresh; the growth of the hair was strong, although the patient had herself noticed a falling out of the hair of the head, the eyelashes, and eyebrows. I advised the use of salt-water baths for husband and wife. On the 2d of

October, 1862 (i. e., seven months afterward), I was again consulted, the salt-water baths had not been attended with much success; the squamous eruption on the scalp was more pronounced, and some aphthous erosions were present upon the sides of the tongue; her general appearance was as good as ever. The husband was free from all symptoms."

Was this eruption really nothing but eczema, and what were the aphthous patches on the side of the tongue? Were they also eczematous? The first time she had these symptoms they disappeared more rapidly than subsequently, but at that time she was using a preparation of mercury, which was not continued afterward, and it must be remembered that the earlier syphilitic eruptions disappear more rapidly than the later ones. Suppose these symptoms were nothing else than eczema, what evidence is there that the children were syphilitic? Nothing, beyond the fact that they were prematurely born. That alone is not a sufficient evidence of hereditary syphilis, for non-syphilitic women also give birth to children prematurely. Thus, one of two things from the history—either the mother was really free from the disease, and the premature birth of the children was not due to syphilis, or else both were syphilitic.

CASE II.—In this case, the father was not seen at all; it is stated that he was subject to ulcers on the legs and feet; whether due to syphilis or not is not known. No traces of syphilis found on the mother. The child was still-born and syphilitic.

As, in this case, one parent cannot be accused more than the other, it can scarcely be accepted as proving either side of the argument.

CAMPBELL'S CASE.—*London and Edinburgh Monthly Journal, for* 1844, p. 514.

"A young medical man, six months before marriage, contracted a chancre. No subsequent symptoms. The wife presented no symptoms of syphilis, but had three miscarriages. (The condition of the children is not stated.) Both were put upon mercurial treatment, when the wife for the fourth time became pregnant, and was delivered at full term, of a child who lived without having syphilis. The length of time it lived is not given. Aside from the scanty details of the history, these points occur at once for criticism: Was the husband's chancre a simple one (chancroid) or was it a primary lesion (indurated chancre)? Probably it was the former, for syphilis does not remain latent for six months, or longer, as seems probable in this case, without showing itself in some way. Miscarriages alone are not enough evidence that syphilis is the determining cause. It may be objected that after the use of mercury the miscarriages ceased. True; but what does that prove? It is no evidence that they were due to syphilis, for it is very possible that the same result might have been attained without its use. One more point: in 1823, when this case occurred, the distinction between the simple and specific ulcers was not recognized, and both were called indiscriminately syphilis. I should not have quoted this case at all, but for the fact that Vidal, in his "Thèse pour l'Agrégation," brought it forward to support the theory of the paternal transmission. It seems to me erroneous to consider it a case of syphilis at all in either parent, for the history of the disease is wanting in father, mother, and children, and the only points on which the idea is based are the father's sore, the mother's miscarriages, and their cessation after the use of mercurials, neither of which alone or together is sufficient to establish the diagnosis.

LANGSTON PARKER'S CASES.—*Modern Treatment of Syphilitic Diseases*, p. 297.

This gentleman records two cases, and I shall copy them in full, that they may speak for themselves:

CASE I.—"In August, 1852, I treated a patient for a well-marked attack of syphilitic lepra. The symptoms disappeared under the treatment, which was not very protracted nor was it regularly followed. In 1854, this patient married a healthy-looking young woman, who in 1855 was prematurely delivered of a dead child. In 1856 she was delivered, at her full time, of an infant, which appeared well and hearty for three weeks. It then began to 'snuffle,' then had puckering of and a dry eruption about the mouth, and two large vesicles resembling pemphigus on the thigh and on the side. The child was treated by mercurial inunction on flannel bandages round the knees, and cured."

Mr. Parker then goes on to say: "In this case, the father remains without symptoms of syphilis for more than three years, yet the disease breaks out in the offspring. Mark what takes place on the part of the mother in the mean time: the premature birth of a dead infant, and a diseased living child cured by mercurials.

"The father during this interval has had no symptom of syphilis; the mother never had any in her life; the ova suffer, and doubtless by impregnation with diseased semen." From the history we have learned nothing about the mother's condition, and we are glad to be told in the summing up of the case that she had never had syphilis. Whether this was known by examination, or merely by what the husband and wife said, is left for us to guess at. The husband, we are told, has had "no symptoms for more than three years, and yet the disease breaks out in his offspring." But at the time of his marriage he had not been well so long as three years; it was only two. At that time he had "a well-marked attack of syphilitic lepra." What was this lepra? was it psoriasis? and was this the only symptom he had? The treatment was irregularly followed out and not protracted; is it not, therefore, probable that he had symptoms subsequent to his "lepra?" He was not seen at the time of his marriage; how are we to know that he did not at that time have symptoms capable of conveying the disease?

CASE II.—"A. B. was treated by me in the Queen's Hospital for a pustular syphilitic disease of the skin, of a very formidable character. The symptoms disappeared under the treatment employed. While he was in the hospital, his wife brought her infant to me, covered with scaly blotches. The child was plump and apparently healthy when born, but a few weeks afterward the patches broke out and the health began to decline. The mother had no symptom of disease; her breasts, as well as the infant's mouth, were free from ulceration. She was extremely anxious to be examined, fearing she might be laboring under some disease of the parts themselves.

I instituted the most careful examination with the speculum, not only once, but four or five times, and could never discover the least local disease. The child in this instance was alone treated and cured. I purposely abstained from treating the mother, whom I watched for nearly two years. She has never suffered from syphilis in any form."

What a very bald history of syphilis in the child; scaly blotches on the body and a decline of the health! Not a word about coryza or mucous patches. The mouth, however, was found free from ulceration. Is that of common occurrence in syphilitic children? Are scaly blotches on the body, without other symptoms, sufficient to establish the diagnosis of hereditary syphilis? Does not eczema attack infants, and is not the disease one which in its course becomes scaly? All these facts would go strongly against the supposition of the child's eruption being due to syphilis.

LANGSTON PARKER.—*The Mercurial Vapor-Bath*, p. 43.

"A young gentleman and lady married, with all the prospects of future happiness that fortune and apparent health could give. In due course the lady became pregnant, but miscarried. The same things happened in her second and third pregnancies; a good deal of mental uneasiness was produced, and some suspicions arose. The fourth child was born alive, but at six weeks old had snuffling and the eyes became bad; condylomata also appeared about the anus. A neighboring physician of great local eminence was consulted, who said rather abruptly, 'The child is diseased.' The parents, as may naturally be supposed, were shocked and horrified beyond measure, the father having at a remote period before his marriage been affected with syphilis; but the mother had never exhibited the least symptom of the disease. He was put upon a course of blue pill and iodide of potassium; the mother at first was not treated. A fifth child was born, who at the end of the first month had symptoms of syphilis. The father was again only treated, and a sixth child was again born diseased. The mother was again examined, but no trace of the disease could be found in the throat, vagina, uterus, or elsewhere. The patients were now placed under my care; I recommended that both should be treated by a full course of mercurial vapor, and that no intercourse should take place during that period.

"The seventh child was born healthy, and has remained so, and neither father nor mother has as yet exhibited any further symptoms of disease.

"This case illustrates one or two very important points in the treatment of syphilis: 1. It establishes the law, which should always be acted on, that, in the event of two married persons, apparently healthy, having a diseased child born to them, both should be treated, although the mother has never shown the least trace of the disease. 2. It shows the efficacy of the mercurial-vapor treatment after the failure of several of the ordinary methods. It is true, an exception might be taken to this, since the mother was never treated till the mercurial vapor-bath was used; but, on the other hand, it is hardly probable that the father could have been cured by the previous treatment, or he would not have continued to procreate diseased children."

And is it not also singular that, despite the treatment the father goes through when he alone is treated, the children continue diseased, but, the moment the mother is included, the next child is born healthy, if the blame rest upon him alone?

Mr. Parker was undoubtedly right in putting the mother under treatment also, inasmuch as she probably was as much at fault as the father for the unhealthy condition of the children. But, if she was, as he believes her to have been, blameless, of what use putting her upon treatment at all? It was not until after the birth of the fourth child, that the parents were examined, and it is not such a matter of wonder that after four years, at the least, nothing was found upon the mother indicative of syphilis. I am assuming that she *was* examined at that time (although it is not so stated), from it being said that, after the sixth child was born diseased, "the mother was *again* examined." The father's history is very loose, "having at a remote period before his marriage been affected with syphilis." How remote; and did he have no symptoms during his married life? The repeated births of so many syphilitic children, their continuance after the father has been subjected to two successive courses of treatment, and their final cessation only after the mother has been treated also, should tend to awaken doubt as to whether the father was alone the cause. Nay, more, there is strong presumptive proof that the fault lay with the mother. These cases are like too many of their kind, very loose and careless in their details—too much so to admit of a scientific value. And, as if for the express purpose of contradicting himself in the belief that "syphilitic semen" can disease the ovum and its product, and leave the mother free, Mr. Parker reports two cases on the next page, where the fathers were infected with syphilis, in the one case apparent, in the other latent, and yet the mothers, and the children born to them, show no signs of the disease. How are these statements to be reconciled? Mr. Parker does not seem to attempt to do so; he merely states the fact.

On looking over the reported cases, one thing will, I think, strike every one, viz., the vague and unsatisfactory manner in which they are reported. Compare them with those given in the first paper on this subject, where it was argued that syphilitic transmission depended upon the mother, not upon the father, and, where the former was healthy, the children would not be infected. The difference in the way in which they are detailed is apparent; the one set being clear and logical, the other careless and unsatisfactory. Then, again, even the advocates of the theory of transmission by the father give cases where the father is diseased at the time of impregnation, but the mother is not contaminated. Yet the children grow up sound and well, whereas, were the doctrine of paternal transmission true, they should have been syphilitic. How is this discrepancy explained; why should such opposite results ensue from similar causes? Diday (*op. cit.*) says, and I quote him as he is one of the principal exponents of this theory: "The father, in fact, is very rarely affected with the disease *without communicating it to the mother before or during pregnancy*. . . . However, despite these inherent difficulties in establishing the paternal influence, there are few specialists who have not been able to do so" (p. 15). He then adduces cases from various authors, none of which are convincing, and proceeds to give a case of his own. A man has syphilitic symptoms both before and after his wife's impregnation; she escapes; the child is born at full term—syphilitic? The contrary; for the two years it was under observation it showed no symptoms of syphilis (p. 17). And this is the way in which he explains it: "It seems natural to admit that a diathesis which does not yet manifest itself, or no longer manifests itself by sensible effects, should be less marked, and consequently less capable of transmission than one of which the symptoms are actually present."

Very good, M. Diday, and now, for "*less capable* of transmission," etc., read "*incapable of transmission*," and there stop. Have we not already proof of the fact in the cases collated in the first paper; do we not know that contact beneath the skin with diseased secretions is all that is necessary to produce the disease, and, if the doctrine be true that semen is a diseased secretion, how do some mothers and children escape? Would they be so fortunate if the secretion of a primary lesion or a mucous patch were substituted for the seminal fluid?

Before concluding this article, I cannot refrain from quoting Mr. Berkeley Hill, of London. This gentleman says: "The transmission of syphilis from father to child is an accident of frequent occurrence, when the mother also participates in the infection before or during pregnancy. In such cases it is impossible to say the virus does not reach the child directly through the mother, and only indirectly through the father. It is also believed that the child can inherit the disease direct from the father, while the mother remains intact. The evidence in support of this view is at present imperfect, because syphilis in women often causes so little inconvenience, that its presence passes unnoticed. . . Diday ("Infantile Syphilis," p. 15, *et seq.*) and Lancereaux ("Traité de la Syphilis," p. 653) have collected the authorities whose observations support this theory, but they do not decide the question. In all, the escape of the mother is inferred from the absence of symptoms of syphilis sufficiently prominent to attract her attention.

"For an example of the kind of cases brought to prove this theory, Trousseau (*l'Union Médicale*, 1857), in a clinical lecture on syphilis in young children, relates that a patient with syphilitic laryngitis told him that his wife, though always in excellent health, had been pregnant six times, but her children were all born prematurely, some of them being marked with blotches on the skin. Trousseau had no opportunity of examining the mother himself, and the health of both parents, excepting the laryngitis of the father, is not stated. It is not clear that the mother escaped disease; on the contrary, the continued abortions are strong presumptive reasons that she had syphilitic disease of the womb, which prevented maturation of the ovum. . . .

"Even if syphilis be not in active progress in the father, it is held by many that the ovum may receive syphilis with the semen. This is an extremely uncertain point, and must await further investigation." ("Syphilis and Local Contagious Disorders," p. 39, *et seq.*)

ADDENDA.

Since the first of these two papers was written, my friend Dr. E. S. Dunster, of this city, has kindly sent me the record of two cases occurring in his own practice, but which arrived too late for insertion where they properly belong. They show proof in favor of the doctrine of the paternal non-transmissibility of syphilis, and are here recorded as Dr. Dunster gave them:

CASE I.—"A. B., forty-seven years of age, contracted syphilis in 1854. Was treated pretty largely, but disease passed into constitutional form, well marked. Married in 1859. Wife perfectly healthy, and has remained so to date. Five children have been born. First (boy), in 1860; second (boy), in 1862; third (boy), in 1865; fourth (girl), in 1867; fifth (girl), in 1869. All these children are living and are perfectly healthy, well developed, and robust. No symptoms either of syphilis or scrofula. Two years I have been physician to the family, and know them all very well. The father, for about four years past, has been a frequent sufferer from nodes and neuralgia. Was very heavily and repeatedly mercurialized before he came into my hands. He is compelled almost constantly to take iodide of potassium in large doses, which keeps his pains in abeyance. His general health otherwise is good.

Has had no mucous patches since he has been under my care. Uses tobacco by chewing only."

CASE II.—"C. D., thirty-six years of age, contracted syphilis in the spring of 1862. Had but slight treatment. Married in 1863. Wife perfectly healthy. Had three children. First born in 1865; second born in 1867; third born in 1870. No miscarriages. Second child died in 1868 of cholera infantum. The other two are perfectly healthy. No traces either in teeth, skin, mucous membranes, osseous or lymphatic system, of the disease. The father has had roseola, mucous patches, nodes on one tibia, one clavicle, one ulna, and slight engorgement of one epididymis of one testicle. Is a great smoker, and has occasional mucous patches which yield readily to the iodide. This is the only symptom now for several years. This case was under my observation at the time of the original lesion, and during most of the time since then the treatment has been directed by myself."

These two cases are well and fully reported, including the history of father, mother, and children, and certainly seem conclusive. The other case in favor of the paternal transmission is one occurring in the practice of Dr. Kennard, of St. Louis, Mo., and is copied from the sixth volume of the "Medical Archives:"

"*April* 12, 1870.—I was called to see an infant aged four weeks, in the southern portion of St. Louis, which three days after birth began to manifest symptoms of hereditary syphilis, such as cutaneous eruptions, superficial ulcerations of the mucous membranes, and that general appearance of exhaustion peculiar to those cases, where venereal disease has been transmitted from the parent to the fœtus, in the act of impregnation. Different from most cases of the kind, which, if born free from external symptoms of infection, generally remain so for three or four weeks, the child during that time appearing plump, with a smooth skin, this child, on the third day after birth, began to be covered with an eruption so rapidly that the mother and all the neighbors became alarmed, and concluded that the child had the small-pox, and a so-called M. D., who was summoned to the case, confirmed their suspicions by stating that it was an awful case of *hereditary small-pox*, and most undoubtedly originated from the poison of variola, still lurking in the mother's system. He treated the case for small-pox for more than three weeks, when, no improvement occurring, but a gradual change for the worse alarming the mother, I was requested to see it. As incomprehensible as it may seem, this child, which had for more than three weeks been treated for hereditary variola, was born of a mother whom I had treated for small-pox two years previously, and whose face was badly pitted; so that, if such a thing were possible as hereditary small-pox, her history alone would have precluded all possibility of such a thing. It presented one of the most typical cases of infantile syphilis that I ever saw. The child had that characteristic look of a little debilitated old woman; the skin was wrinkled and loose, hanging in little folds to its emaciated form, and of a muddy, dirty, dead-leaf color, especially on the chin, forehead, and buttocks. There were chaps and cracks around the mouth, nares, and eyes, and a great portion of the body was covered with scabs, resulting from the bullæ of pemphigus; the nostrils were nearly closed, and consequently snuffling was very troublesome. There were great fretfulness and marked insomnia; the voice was weak, hoarse, and characteristic, and that indescribable odor peculiar to this disease was very marked; vomiting and diarrhœa were both very troublesome.

"The peculiar cough which accompanies bronchitis in these cases was very harassing, and in fact the child looked as though the ordinary termination of such severe cases, death, would soon and inevitably bring its sufferings to a close. It was not only in an extreme state of debility from the influence of the poison in its blood, but the plugging of the nares was so complete as to seriously inconvenience the child in nursing, and thus prevent its proper nutrition. It had three diseased nails on one hand and two on the other, and also three on each foot. They were abnormally thickened, yellow, dried up, and soon became detached.

"The sanio-purulent discharge from the nose, after the scabs obstructing the nares had been removed, was profuse and offensive, and there were troublesome follicular ulcerations and cracks on the inner portion of the alæ nasi, which easily gave rise to slight hæmorrhage. The characteristic stridulous, squeaking, scarcely-audible cry, showed that the larynx was implicated, while the obstinate cough and impeded respiration proved that there was trouble in the lungs. The symptoms of bronchitis were indeed alarming.

"The eruption was composed of dark, purplish-red patches, papular in appearance, slightly elevated above the natural surface, and the cuticle over them raised into blisters, filled with a yellowish-green fluid, which soon escaped, mixed with blood and dried into scabs; under many of the scabs ulceration occurred. Mucous patches around the anus, on the perinæum and vulva, were very numerous, in the form of pinkish, elevated spots, moist, but soon began to dry and disappear under treatment. The eruption was a mixed, pustulo-papular one, with considerable amount of exudation, which formed into hard scabs, firmly adherent to the adjacent derma, and upon their detachment sluggish ulcers were found underlying them. Such are the details of the appearance of this case as first seen by me." . . .

The peculiarities and points of most interest in this case were:

"1. The possibility of a father procreating a child so seriously diseased, when the only mode of communicating the syphilitic poison was through his semen, and at a time when the poison in his system manifested no activity whatever, proving that the poison may be transmitted to the offspring at any period of the constitutional disease, and when it is latent in the parent.

"2. The strange fact that a non-syphilized mother could nourish and bear to full term such a grievously-afflicted child, and yet escape contamination herself, both then and while continually nourishing it. . . .

"*This case furnishes an undoubted instance of the indirect transmission of syphilis by a diseased father, while the non-syphilized mother remained uninfected*, proving that the poison reached the child directly, and only through the impure semen of the father, and that neither the diseased child nor the father communicated it to the mother (a fact the possibility of which is generally denied); and that the ovum became contaminated from the semen of the father when syphilitic disease was at the time in abeyance in his system. The inherited disease, as a rule, is more or less severe in the child in proportion to the virulence of the disease in the parent communicating the same, and the time which has elapsed since syphilitic symptoms were manifested in him or her, or in both, but it may be communicated at any stage from six months to twenty years after the empoisonment, and some contend that it can be transmitted *to the third generation.*"

Dr. Kennard's case is one certainly difficult to question, from the care with which it is reported. In reply to a note of inquiry I wrote him, he says: "I have purposely delayed answering your kind letter of inquiry, because I thought it would be much more satisfactory to you for me to examine the mother once more before doing so. She had been a patient of mine some years previous to the birth of the child, whose case was reported in the 'Medical Archives,' and been thoroughly examined by me on several occasions with the speculum, and otherwise, and never at any time did I detect any sign of venereal disease whatever. During the treatment of the child and since, she was repeatedly examined and most assuredly manifested no symptoms of syphilis at all. She is now in very robust health and most positively declares that she never had any venereal disease."

Only two things are needed to make Dr. Kennard's paper perfect: a history of previous births, if any, or of miscarriages; and a history of the father's disease. It is only by implication, and seemingly not from actual knowledge, that he is assigned as the cause of the child's disease.

Suppose, now, on questioning him, that he should deny ever having had the disease, to whom should we refer the child's illness? Perhaps the raising such objections may be regarded as quibbling; such is, by no means, my intention.

The reason why I express these doubts is, that this doctrine of paternal transmission has been questioned and denied by many competent authorities and upon pretty good grounds; better by far than those adduced by the adherents and believers in the old theory. To disprove their assertions we must have better arguments than we now possess. The cases on the side of the paternal non-transmissibility are fuller, clearer, and more convincing than they are on the other; and, although this case of Dr. Kennard's, and the one of Ricord, are the best of any reported, they fail of being convincing. To be so, they should be exact in the details of both parents; if any thing is left doubtful or questionable, their value is lessened. For that reason I have left out those cases which I have seen, because I had unfortunately kept no record of them, and could not, therefore, speak positively about them. This much I remember was strongly impressed upon my mind: in all my cases I have been able to trace the disease, past or present, back to the mother, and in other cases, where, upon examination, the father was diseased, the mother healthy, and the child *reported* syphilitic, I have, on inspection of this latter, been able to diagnosticate some simple eruption, such as eczema or the like.

Although I do not say absolutely that the paternal transmission is *impossible*, I do not hesitate to say that it is *very improbable*, and on these grounds:

1. Because the reported cases are wanting in such details as to render them convincing.

2. Because this theory is entirely opposed to our present knowledge of the contagious properties of syphilis and its mode of propagation; and—

3. Because our knowledge of infantile syphilis has not kept pace with our progress in the other branches of the disease.

Here is really the way in which the proposition stands: Both sides grant the contagious properties of a primary lesion and of mucous patches; one side further argues that the semen of a person in whom the disease is either present or latent is also capable of conveying the poison; the other side demurs, and offers as proof against this argument the fact that many cases exist where the syphilitic father has perfectly healthy children, and in this connection the mother is found free from disease. The first side say this is possible, and go further yet: notwithstanding that this poison is eminently virulent and dangerous for those previously free from its influence, they insist that a perfectly healthy woman may and does receive this poisoned semen into her body, a diseased fœtus is carried by her for the nine months of intra-uterine life (the relations between the two being of the most intimate character for that length of time), she nourishes this rotten product, which, when born, may become a centre of contagion to those about it, and yet escapes contagion. If this be true, then one of two things: either we are ignorant of the real condition of the mother, or else syphilis is not the contagious disease which we have been accustomed to consider it.

I myself believe it is, the former, and showed, in the first paper, the why and wherefore of my belief.

What I now wish to urge is new and independent observations. Both the parents and the children should be examined and watched for some time before we may conclude one way or the other, but above all things let us cease copying old and poorly-reported cases, and observe anew for ourselves. In this way only can we hope to arrive at some definite conclusions upon this important subject.

THE EFFECT

OF

SMALL DOSES OF MERCURY

IN

MODIFYING THE NUMBER OF THE RED BLOOD CORPUSCLES IN SYPHILIS;

A STUDY OF BLOOD-COUNTING

WITH THE

HÉMATIMÈTRE.

BY

E. L. KEYES, M.D.,
ADJUNCT PROFESSOR OF SURGERY AND PROFESSOR OF DERMATOLOGY IN THE BELLEVUE
HOSPITAL MEDICAL COLLEGE, NEW YORK; ONE OF THE SURGEONS TO THE
VENEREAL DIVISION OF THE CHARITY HOSPITAL, ETC.

WITH TWO WOOD-CUTS.

[Reprinted from the American Journal of the Medical Sciences, for January, 1876.]

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
1876.

THE EFFECT

OF

SMALL DOSES OF MERCURY

IN

MODIFYING THE NUMBER OF THE RED BLOOD CORPUSCLES IN SYPHILIS.

To this last class I have always belonged, and my observation, now extending over ten years, fortified by the larger and longer experience of my friend and partner, Prof. Van Buren, leads me to hold to my position still, until another course can be proved to be more beneficial to the patient, or this one can be shown to do him harm.

The position is this, that syphilis is most surely controlled—most often cured, as far as any future evidence of its existence is concerned—by the unremitting use of small doses of mercury, continuously given during not less, and very often more than two years, the quantity being barely enough to keep down the symptoms and not enough to make the patient physically conscious of taking any medicine at all; the drug being pushed if necessitated by symptoms, and iodide of potassium being used when required.

I believe it to be a rule, to which there are very few exceptions, that a patient in fair general health with syphilis treated in this manner from

ERRATA.

Page 12, fourth line from top, *for* "0.0006 mm.," *read* "0.006 mm."

" 14, sixteenth line from top, *for* "20 syphilitic," *read* "21 syphilitic."

THE EFFECT

OF

SMALL DOSES OF MERCURY

IN

MODIFYING THE NUMBER OF THE RED BLOOD CORPUSCLES IN SYPHILIS.

THE value of mercury in the treatment of syphilis is recognized quite generally in the profession, but the most varied views are held as to the best method of using the remedy. Some practitioners advocate the old method, a prompt, brilliant course to induce salivation, hoping, alas, vainly! to strangulate the disease. Many, a majority indeed, believe in the value of numerous, interrupted, short treatments, not pushed to salivation; while others maintain that the best course to secure a patient from serious trouble, early or late in the disease, is to give mercury unremittingly during a long series of months.

To this last class I have always belonged, and my observation, now extending over ten years, fortified by the larger and longer experience of my friend and partner, Prof. Van Buren, leads me to hold to my position still, until another course can be proved to be more beneficial to the patient, or this one can be shown to do him harm.

The position is this, that syphilis is most surely controlled—most often cured, as far as any future evidence of its existence is concerned—by the unremitting use of small doses of mercury, continuously given during not less, and very often more than two years, the quantity being barely enough to keep down the symptoms and not enough to make the patient physically conscious of taking any medicine at all; the drug being pushed if necessitated by symptoms, and iodide of potassium being used when required.

I believe it to be a rule, to which there are very few exceptions, that a patient in fair general health with syphilis treated in this manner from the period of his first eruption, and attending, meantime, to hygienic laws, will have but one general eruption (the first, and perhaps that will not be fully generalized), will have no *serious* lesion subsequently, and will be and continue to be in as good or better health after his treatment than before. To this rule, of course, there are exceptions, but they are not numerous.

In reading a paper by Liègeois,[1] I was first apprised of the fact that small doses of sublimate, administered to healthy men or animals, caused them to increase in weight. Larger doses, of course, were followed by loss of weight, and, naturally, still larger ones were fatal.

I came to accept this statement as a fact, without seeking to demonstrate it by personal experiment, because I had *clinical* proof in many of my syphilitic patients, whom I watched slowly gain in weight and strength, while under the prolonged use of minute doses of mercury.

I was familiar with the well-known results of the examinations of syphilitic blood made by Ricord and Grassi, and with the wide-spread prejudice, partly due to these experiments, that mercury reduced the proportion of red blood corpuscles, while iodide of potassium increased it early in syphilis. Yet clinical experience with small doses of mercury spoke loudly against this view, and I could not honestly heed the purely scientific warning of Grassi.

In 1874, in a very interesting article containing the tabulation of many careful experiments, Wilbouchewitch[2] arrived at the following conclusions concerning the blood in the early days of syphilis :—

1. Small doses of mercury, when given to a syphilitic patient, increase the number of red blood corpuscles at first, and slightly diminish the number of the white globules.
2. The long-continued use of small doses of mercury gives the same results which mercury in large doses yields in animals; namely, diminution of the red blood corpuscles, diarrhœa, etc.
3. It is, consequently, important to know when to discontinue treatment, and this can only be determined by counting the blood corpuscles.
4. It is necessary, in treating syphilis, to give mercury until the red corpuscles begin to diminish in number, then to cease in order to allow them to increase, to return to mercury when the number of red cells again diminishes under the influence of syphilis—and so on indefinitely.

On reading this article attentively, it became clear to me how M. Wilbouchewitch, while counting the blood corpuscles of his patients conscientiously, might, by a faulty interpretation of his facts, have arrived at the above conclusions.

---

[1] Des Résultats cliniques et scientifiques obtenus avec les Injections sous-cutanées de sublimé à petites doses dans l'étude de la Syphilis: Gaz. des Hôp., 88, p. 347, 89, p. 350, 1869—noticed by me in a Report on Syphilis, N. Y. Med. Gaz., Feb. 26, 1870, p. 150.

[2] De l'Influence des Préparations mercurielles sur la Richesse du Sang en Globules rouges et en Globules blancs—Archives de Physiologie, 4 and 5, 1874, p. 508.

1st. All his patients, each with chancre, some with an early eruption, were treated in a hospital (Midi), taken away from their ordinary mode of life, and associated with sick people amid the depressing surroundings of hospital existence, with the sad picture of syphilitic eruptions, such as they saw around them, constantly on their minds as in prospect for themselves.

2d. Of the ten cases from which the conclusions of the paper were drawn, five received (each) a little over ⅛ gr. of corrosive sublimate four times a day from the commencement (4 centigrammes daily), the other five got ¾ gr. of protiodide of mercury twice daily (10 centigrammes a day)—surely in neither case a very small dose.

3d. The falling off in red corpuscles commenced at varying periods—after from 5 to 24 days of treatment, a mean for the ten cases of exactly eleven days—and yet the author does not seem even to suspect that, possibly, his patients are being over-dosed.

4th. In five cases only is mention made of the weight of the patients. These lost, respectively, over 2⅛, 2⅛, 3⅛, 3⅛, 3⅛ pounds, and that in a very few days. It seems impossible that even a careless observer could have drawn any conclusion from a patient who lost 3 3/10 pounds in 20 days of mercurial treatment in a hospital (Case III.), except that either the hospital injured him or that his treatment was excessive, yet neither of these ideas seems to have occurred to M. Wilbouchewitch. It would have been extraordinary had there been an increase of red blood cells above the general standard in these cases.

5th. In five of the ten cases the blood was counted again at periods varying from eight to nineteen days after the patient had left the hospital and discontinued treatment. In each case the number of red cells had increased, and it is but fair to infer that the patients had also gained in weight under their improved hygienic surroundings—but upon this point the author is silent.

It seems, therefore, that it is upon an erroneous interpretation of facts that Wilbouchewitch has built his theories and formulated his scientific laws for the treatment of syphilis. The above analysis of his facts seems to me to destroy the value of his premises and to make his conclusions worthless.

Wilbouchewitch also killed a few rabbits with large doses of mercury.

In the "Report of the Edinburgh Committee of the British Medical Association, by J. Hughes Bennett,"[1] there are fourteen carefully tabulated records of experiments made upon dogs, by giving them different forms of mercury in varied doses. The experiments were carried on solely with a view to determine the action of the substance employed upon the liver, yet, incidentally, a close study of the tables yields the following important information—of which, however, the Committee took no note.

---

[1] Researches into the Action of Mercury, etc., on the Biliary Secretion, 2d ed., London, 1874.

Corrosive sublimate, blue pill, or calomel was given, but whatever mercurial was used, the dog invariably lost weight when a large dose of the mineral was administered, whether kept up for a short period (1⅗ gr. sublimate during 1 day, loss ¼ pound) or for a long one (19½ gr. sublimate during 13 days, loss 7¼ pounds, p. 29).

Absolutely, the only instances in the report where a *gain* in the weight of the dog is noted, are two. In both, comparatively small doses of corrosive sublimate were employed, from ⅙ gr. daily to ⅓ gr. twice a day—and a continuance of the latter large dose for more than 48 hours caused a loss of about 6 pounds in one case, while the same dog, suffering from an artificial fistula in the abdomen, had increased in weight over three ounces in four days under the administration of ⅙ gr. corrosive sublimate twice a day, and had held what he gained until the dose was increased (p. 51). The other animal (p. 49) took four grains of corrosive sublimate in twelve days, and gained about the same amount. These are the only dogs of the series in which a gain in weight is noted, and they each had abdominal fistula. They alone took reasonably small doses of mercury.

Upon the data set forth above I undertook to investigate the effect of mercury upon the blood This paper is a record of the results obtained.

The Hématimètre.—A special instrument is necessary in order even to approach accuracy in an estimation either of the quantity or number of cellular elements contained in a given volume of blood. Chemical methods, those yielding the often-quoted estimates of Andral and Gavarret, of Becquerel and Rodier, those of Hittorf, Erlenmyer, Marchand, Nasse, Zimmermann, and others, can only be approximative. Grassi's method[1] was chemical like that of Andral, but deserves particular mention as being the first scientific effort (1844) to determine the effect of syphilis, and of the use of mercury and of iodide of potassium in this disease, upon the proportion of red corpuscles in the blood.

All the methods of actually counting the blood cells which are found referred to by writers on this subject (those of Hirt, Lorange, Marfels, Moleschott, Vierordt, Welcker, Mantegazza, etc.), whether they were for counting the red or the white cells, had the defect of not accurately establishing the count for a given volume of blood. The dilution of the blood was known, and the superficies included in the count more or less accurately established; but the thickness of the layer of blood counted was a more or less variable factor. Many of the attempts formerly made were undertaken to establish, approximately, the relative proportion between the white and red corpuscles rather than to determine the absolute number of red corpuscles contained in a given volume of blood.

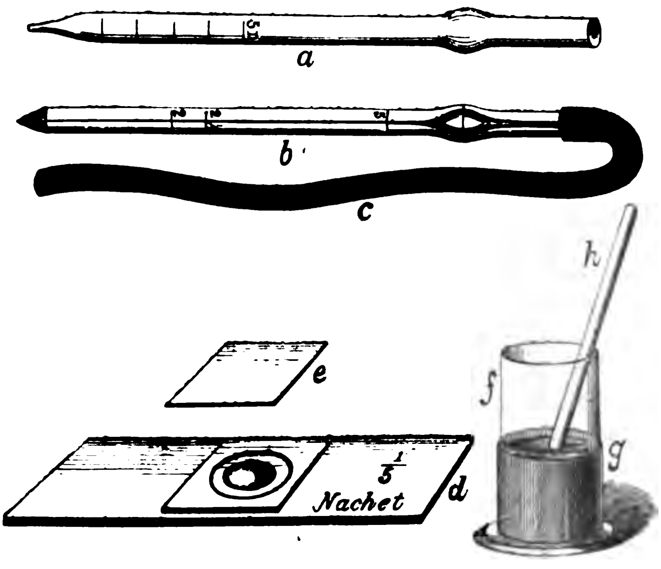
---

[1] Referred to by MacCarthay, Du Diagnostic et de l'Enchaînement des Symptomes syphilitiques. Thèse de Paris, 1844, and rather fully in Ricord's Leçons sur le Chancre, 2d Ed., Paris, 1860, p. 185.

The first recorded instance of which I am aware wherein accuracy was aimed at in estimating the exact volume of blood counted, was that of Cramer,[1] and a cubic millimetre of blood was adopted as the unit of volume. The process was a rough one.

In 1867, Potain made a positive step in advance in this direction by devising an ingenious set of instruments, requiring, however, considerable skill and care in their management, which allowed him, by the use of a special mathematical formula, to arrive at an easy estimate of the number of red corpuscles in a cubic millimetre, by counting a small portion of diluted blood.

Fig. 1.



Malassez[2] gave Potain's method to the world and wrote (and is still writing) extensively upon the subject of blood-counting. The instrument described and used by Malassez is somewhat complicated, and not free from the accusation of possible inaccuracy. I shall not describe it, as a much more simple and exact apparatus exists. I refer to the hématimètre of Hayem and Nachet, recently described (with plates) by the former gentleman.[1]

---

[1] Nederl., Lancet, 1855, referred to by Hayem Gaz. Hebd., May, 1875.

[2] Comptes Rendus de l'Academie des Sciences, Dec. 1872; De la Numération des Globules rouges du Sang, Thèse de Paris, 1873; Nouvelle Méthode de Numération des Globules rouges et des Globules blancs du Sang, Archives de Physiologie, 1874, 1. p. 291.

This is the instrument which I have used.

Fig. 1, represents all its essential parts except the microscope. A few words will suffice to describe them.

a, is a graduated glass pipette, each line on the tube marking off a capacity of 100 cubic millimetres, 5 D therefore indicates 500 cubic mm.

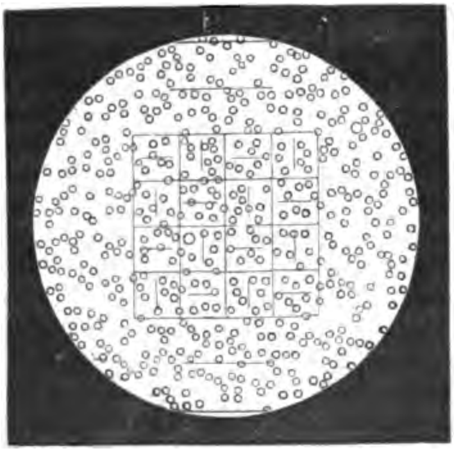
b, is a smaller capillary pipette graduated to 2, 2½, and 5 cubic mm.; the operator takes the rubber tube *c* into his mouth to facilitate the entrance of blood into the pipette by suction.

d, is a glass slide upon which is cemented a glass cell with a circular opening 1 centimetre in diameter, the depth of the cell being exactly ⅕ mm.; *e*, the covering glass to fit over the cell. A drop of fluid is represented in the cell.

f, is a small glass cup to receive the blood and artificial serum for mixing. It fits into a brass stand *g*, to insure firmness; *h*, is a glass rod with which to mix the fluids.

The apparatus is completed by a microscope having a special eye-piece (No. 2 Nachet) containing a quadrilateral micrometer, Fig. 2.

Fig. 2.



The large square of the micrometer is further divided into sixteen smaller squares, while each smaller square contains a line drawn half way across it to facilitate the counting.

---

[1] De la Numération des Globules du Sang, Gaz. Hebd , May 7, 1875, p. 291.

Manner of using the Instrument.—The ocular above described, being adjusted to a microscope, the draw-tube is so arranged that for a given objective (No. 2 Nachet is suitable) a side of the square micrometer in the eye-piece measures accurately ⅕ mm. upon a stage micrometer. The depth to which the draw-tube has been pushed in is then scratched upon the tube so as to be readily arranged in a moment, and the microscope is ready for use.

I have always adopted as a standard of dilution 1 to 250, as this scatters the corpuscles sufficiently to make them easy to count. The actual process is as follows :—

The pipette *a*, is filled to the mark 5 D, with the diluting fluid, which is at once emptied into the glass cup *f*. The pulp of the finger of the patient whose blood is to be tested should be deeply pierced with a glover's needle having a triangular cutting point. The blood should not be driven forward into the finger by pressure before the puncture. A string should not be tied around the finger. A round sharp needle should not be used. Repeated experiments, with needles and knives upon myself, which lack of space forbids my reproducing here, have proved to me that the above suggestions must be heeded in order to be certain of always obtaining uniform specimens of capillary blood. The triangular cutting needle does away with Hayem's objections to puncture,[1] and is a less formidable instrument than the knife in the eyes of the patient.

After piercing the pulp of the finger quick firm pressure down the finger will force out a large drop from the puncture. This must be sucked into the capillary pipette without delay, lest it coagulate. When the pipette is full to the mark 2, its point should be rapidly wiped clean of any blood adhering on the outside, and the contents at once blown into the artificial serum in the cup *f*. A little suction back and forth clears the tube of any blood corpuscles which may have adhered to the glass within. Both tubes should be carefully washed before being put away.

The mixture should now be thoroughly agitated with the glass rod, and before it has time to settle, a drop is placed in the middle of the cell on the slide *d*, care being taken that the drop is not large enough to touch any part of the circumference of the cell (Fig. 1, *d*). The covering glass *e*, should be immediately placed upon the cell. Should the drop be too large, so that, when the thin glass is adjusted, it spreads out enough to touch the circumference of the cell and to be partly sucked up beneath the covering glass and top of the cell, the latter must be wiped and a new drop placed within it. Finally a small drop of water or saliva is applied to the edge of the covering glass, under which it circulates around the top of the cell, serving to hold the cover in place and prevent the evaporation of any part of the drop within.

---

[1] Loc. cit., p. 294.

The slide thus prepared is placed under the microscope. In a few moments the counting may begin, the blood corpuscles will have all settled to the bottom of the cell, and a picture similar to that shown in Fig. 2 will be seen on looking through the microscope. The counting should not commence until all the corpuscles are upon the same plane and can all be focused together. It is better to count each of the sixteen squares and write down its number separately, so that in counting the square beneath it, should there be any doubt about counting a given corpuscle lying upon the line, a glance at the number recorded for the square above may remove all doubt. Many corpuscles will be found lying upon the outside lines bounding the large square. I have adopted the rule of rejecting all those lying upon the upper and right-hand outside lines (of the large square) and counting all those lying upon the lower and left-hand outside lines.

After having thus obtained the number of red corpuscles situated within the large square, it becomes easy by a simple equation to find the number in a cubic millimetre. A single count, however, exposes to sources of error, and in order to approach more nearly to exactness, I have uniformly counted the number contained in the large square in five different portions of the field (sometimes ten), and have taken a mean of the whole number of counts as the standard.

The computation is as follows: The glass cell on the slide is $\frac{1}{5}$ mm. deep. The eye-piece micrometer marks off $\frac{1}{5}$ mm. square, therefore, the count of red corpuscles (or white as the case may be) must indicate the number contained (in the dilution used) in $\frac{1}{5}$ mm. cube. But $\frac{1}{5}$ mm. cube is 1-125th of a cubic mm., therefore, the number counted must be multiplied by 125; and the blood was diluted by adding 250 parts of fluid to 1 of blood (2 cubic mm. to 500 cubic mm.), therefore the product above obtained must be again multiplied by 251 to get the number of corpuscles in a cubic mm. of pure blood. Instead of multiplying twice, a single multiplication by the product of 125 × 251, 31375, will give the same result.

Letting $x =$ the mean of 5 counts; the equation then is simply: The number of red corpuscles in a cubic mm. of blood $= x \times 31375$.

Fluid used to dilute blood for counting.—I experienced great difficulty in obtaining a good fluid for diluting blood, which time would not alter. All of those proposed are serviceable while fresh, but none of them will keep when a pipette is dipped into it daily. Bacteria, when present even in small numbers, make the count very uncertain, because the motion of the little rods causes the corpuscles to move about the field and to run together into groups, and as each corpuscle in the large square counts for 31,375 in the final result, it becomes at once apparent that anything making it difficult to avoid counting a corpuscle twice or tending to distribute them unevenly is disastrous to accuracy.

Round and oval-celled cryptogamic growths in a diluting fluid are also objectionable, since some of their cells are apt to be counted as blood corpuscles and *vice versa*. The artificial serum of Malassez (1 vol. of solution of gum acacia sp. gr. 1020, and 3 vols. solution of equal parts of sulphate of soda and chloride of sodium of same density) is open to this objection; and, besides this, has the defects of distorting the corpuscles in shape and disolving them after a few hours.

My friend Dr. L. A. Stimson, to whom I am indebted for much valuable assistance in experimenting to obtain a proper fluid, brought me, in the month of May, from Paris, an ounce of Schultze's iodized amniotic liquid of the cow. This makes a homogeneous mixture with blood, but contracts the red corpuscle somewhat, and after the bottle has been dipped into a few times with the pipette, my ounce, at least, was swarming with bacteria. The same criticism applies to the fluid of ascites, and the clear serum from a hydrocele of the tunica vaginalis. Iodine, carbolic acid (pure or impure), salicylic acid, iodate of calcium, carbonic acid, sulphurous acid—none of these, unless added in a strength destructive to the blood corpuscle, is able to prevent the rapid development of bacteria in either of the two fluids above mentioned.

In searching for a good fluid, Dr. Stimson and myself tried a variety of saline solutions, but failed to find perfection in any of them. Finally it occurred to me that healthy urine containing blood, often shows the blood corpuscles perfectly preserved in size and shape on the day following that on which the specimen was voided. Knowing that a proper fluid must have a specific gravity of about 1020 in order not to distort or dissolve[1] the corpuscles, I experimented with healthy urine of that sp. gr. The specimen I used was neutral, sometimes very faintly alkaline (phosphatic, not ammoniacal), and answered admirably. But urine will not keep long even when filtered, especially if it is contaminated by having a pipette dipped into it. Bacteria will appear in it very promptly, and as it is inconvenient to get a fresh specimen of urine to use each day, I undertook to prepare a permanent urinary fluid. This was finally accomplished, and I give the result, omitting the steps by which it was reached.

Take urine, neutral, slightly phosphatic, easily obtainable after eating, about 1020 sp. gr., and make of it a saturated solution with borax. Clouds of earthy phosphates are thrown down. Filtration yields a clear, alkaline fluid sp. gr. about 1030. Add one-half volume of water, or enough to reduce the sp. gr. to 1020, and the fluid is ready for use.

This fluid retains its brilliancy for a long time,[2] although daily contaminated by the pipette; no bacteria or confervoid growths appear. It makes a homogeneous mixture with blood, and preserves the color of the corpuscles. The latter become perfectly spherical, are slightly, but uniformly contracted (measuring 0.0006 mm.). They are perfectly preserved for a number of hours, after which some of them begin to dissolve.

---

[1] Too light a fluid, water for instance, dissolves the corpuscles so quickly that not one of them can be found on putting the mixture prepared with it, immediately under the microscope. Too heavy fluids distort the corpuscles and cause them to collect into heaps.

[2] Mould appeared upon it after two months.

The above is a good fluid, and has no poisonous properties. The following is very much better, but the corrosive sublimate may make it objectionable to some.[1]

Take of urine, neutral or slightly alkaline, sp. gr. 1020, a sufficient quantity, filtered. Add gr. v of corrosive sublimate in powder for each ounce of urine. This will throw down dense clouds of amorphous urates, so fine that ordinary filter paper will not remove them. After standing, the urates deposit, and the clear fluid above may be easily decanted. Reduce with water to sp. gr. 1020.

The result is a limpid, sparkling, acid fluid which remains clear no matter how often contaminated with the pipette, and does not seem to allow of the growth of any form of vegetation. It makes a perfect mixture with blood. It bleaches the red corpuscles quickly, and very slightly, but uniformly, increases their size. They retain, however, their flattened, bi-concave, disk-like shape, and do not become dissolved after standing more than twenty-four hours—beyond which time no test was made.

Estimation of the accuracy of the Hématimètre.—Theoretically the method of enumerating the blood corpuscles with the instrument of Hayem and Nachet is absolutely accurate; practically it is not so. This is largely due to the minuteness and infinitely vast number of the objects counted. It would be folly to try to calculate the number of red corpuscles in the human body, for when obtained, the figures would give no more idea to the ordinary mind of what the number really is, than would the word infinite.

For example—to reduce the whole matter to figures which can be easily understood—the population of the entire earth is estimated at considerably under 1,500,000,000. The *hématimètre* shows that one cubic mm. of pure blood of a male adult in good health, holds on an average 5,000,000 red blood corpuscles. But a cubic millimetre does not furnish a very accurate idea to the mind. A centimeter is better, it is of appreciable size, something over the third of an inch (exactly .39371 inch). A cubic centimeter is equal to 1000 cubic millimetres, and, therefore, contains 5,000,000,000 red blood corpuscles—a number of distinct red cells (not to count the white corpuscles) in each cubic third of an inch of blood, more than three times greater than the population of our entire globe.

This vast number of cells is probably undergoing daily and hourly variation to a slight extent. Wilbouchewitch noticed a very marked increase after meals. I endeavoured to avoid this source of error by counting my patients between the hours of 9 and 12 in the morning. In my own case there was a marked diminution after being up most of the night with a patient—a loss fully recovered from on the next day. In counting the same drop of diluted blood, it is rare for any two counts to be exactly alike, and for this reason I have always taken the mean of 5, often 10, counts, to approach more nearly to accuracy. This seems more necessary when we consider that each separate corpuscle counts for 31,375 in the final result—but yet, after all, 30,000 is a small matter when compared with the infinite number of these little cells. I have found it prudent also not to count very near the edges of the drop on the slide—where the corpuscles are apt to collect together unevenly.

---

[1] It is a strange coincidence that I should have found mercury the best preservative for blood corpuscles.

In the same drop on different counts carefully made (mean counts of 5, not single counts), I have sometimes found a difference in the final result of as much as 200,000 to the cubic mm. Therefore, I cannot look upon this method, although followed out with conscientious care, as being absolutely accurate, nor should I consider a few counts, taken alone, of any value whatsoever. But relatively, I believe it to be very reliable, and if, in a great number of counts in different cases, the testimony of the figures should be largely in one direction, and the counting had been conscientiously performed, I should consider their evidence unimpeachable.

Of course for accurateness of results, to compare with those of another observer, the glass cells must be absolutely equal in depth. That this is generally so I doubt not—but it is not always so. There is a difference in depth of about $\frac{1}{50}$ mm. between my cell and one in possession of Dr. Stimson. There is a uniform difference of about 10 per cent. in the count of the same blood in the different cells. This is undoubtedly due to the fact that the depth of the cells is measured (they are ground after being cemented) with a sharp-pointed instrument, which might readily make an error of nearly $\frac{1}{50}$ mm. on account of inequalities in the surface of the glass.

Each cell, however, is absolutely accurate in itself, and the *relative* results obtained by it are (relatively) accurate; therefore, any series of observations made with one and the same cell, possesses positive value, whether the actual numbers accord with the results of observers using other cells or not.

All the counts contained in my tables were made with a single cell, whether counted by Dr. Stimson or myself. Absence of error was still further secured by getting Dr. Stimson to make many of the counts for me, he knowing neither the patient nor his previous count. In the experiment upon myself, where I took mercury for a fortnight, Dr. Stimson made all the counts of my blood, ignorant of what experiment I was the subject.

I have certainly taken every honest scientific precaution in my experiments, always counting (or having counted for me) the blood as soon as it was drawn, and recording the figures in a book, one after another, without order, attached to the name of the patient and referring to his case in my note book, and entirely disconnected from any previous count. I entered upon the investigation as a searcher for truth, and came out convinced but astonished. After collecting together the scattered counts and arranging them into tables, I was infinitely surprised at the *uniformity* of the result; not at the *result*, for, candidly, that I expected, but at its wonderful uniformity. Had I manufactured the figures myself I could not have done more to sustain the statement: that mercury, in small doses long continued in syphilis, increases the number of red corpuscles in the blood, and maintains them at a high standard in a majority of all cases.

Tabulated experiments, with remarks.—I have carefully counted the blood 101 times (5 to 10 counts each), not including a great number of counts to settle side issues of various kinds. A record of the blood of 27 individuals is contained in the following tables, of which 6 were apparently sound, 20 syphilitic. My first recorded count was on June 5, 1875; my last for this article, Oct. 26, 1875. Most of the patients were in affluent circumstances, many of them spending the greater part of the summer out of town; 3 hospital cases only were counted for comparison. The circumstances, therefore, are favourable for rather high counts.

The cases will be grouped into tables and considered as follows:—

I. *Average of red blood corpuscles in 1 cubic mm. of blood of the healthy adult male.*

II. *Effect of small doses of mercury upon the blood early in syphilis.*

III. *Effect of the long-continued use of small doses of mercury upon the blood in syphilis.*

IV. *Effect of mercury in excess upon the blood in syphilis.*

V. *Effect of mercury combined with the iodides upon the blood in syphilis.*

VI. *Effect of mercury, in hospital, upon the blood in syphilis.*

VII. *Effect of small doses of mercury upon the blood in individuals not syphilitic.*

No special attention has been given in these experiments to the white blood corpuscles, or to the effect of iodide of potassium alone; both very valuable subjects for investigation. In some cases of late syphilis counted, but not included in this report, the iodide of potassium, used alone, seemed very active in its power of increasing the number of the red blood cells. The counts taken of women are not included in the report, as the number of cells they possess seems to be naturally somewhat lower than that of men, and my object has been to establish a just comparison between the results obtained from healthy men and adult males with syphilis who had been for a longer or shorter period under mild mercurial treatment. None of the cases (except the hospital ones) were selected, but all were taken as they came along, at least such as could be induced to allow themselves to be counted, and such as the hurry of morning office hours gave time to count. I have avoided multiplicity of figures and of details as much as possible in the following tables. Figures are perplexing to the eye and wearisome to the mind.

I. *Average of red blood corpuscles in 1 cubic mm. of blood of the healthy adult male.*—To obtain a healthy standard for comparison, I made, with the help of Dr. Stimson, 33 examinations of 5 or more counts each. The conditions were most favourable for a high standard. The time was summer, the individuals all in flourishing health. Of the five whose blood was counted, Dr. Stimson was just from Europe, in the full flush of health, and during the period of counting, passed most of his time in the country. For myself, I was in excellent health, and during July was in the country for four days and five nights of each week, in full relaxation of mind and body, doing no work harder than fishing. Of the other three individuals counted, one was a full-blooded gentleman living in the country, two others, young physicians, one in town, one in the country. Two out of the five are six feet tall, and weigh about 200 pounds each ; a condition seemingly favourable to a high count.

TABLE I.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Dr. Stimson, average of 14 counts,	5,068,793.	Counts extended from June 5th to September 15th. Taken at all hours of the day, before and after meals, to get an average.
Dr. Keyes, average of 14 counts,	4,815,040.	Inclusive, from June 5th to July 22d ; also taken indifferently at all hours of the day.
Dr. ——, 3 counts,	5,045,063.	Lives in country ; fat, young, well.
Dr. ——, 1 count,	4,706,250.	Not fat, but in good health ; living in town.
Mr. ——, 1 count,	5,697,700.	Large, fat, beyond middle age ; healthy ; lives in country.
Average 33 counts,	4,990,550	

The above table is derived from exceptionally good sources. As for the number of blood corpuscles, I believe that each man is a standard to himself ; but it was necessary to get a general average of good health to use as a standard of general comparison for patients not well, and those under the influence of mercury for a long time when first counted, as their own natural standard in health could not be known.

The above estimate, of nearly 5,000,000 blood corpuscles for the cubic mm., I believe to be a high average for Americans in the neighbourhood of New York during the summer and autumn.

To compare the above result with that obtained by other investigators, Hayem[1] places the mean at about 5,000,000, more or less, for the blood of the finger of the healthy adult male. Vierordt established as a mean for his own blood something over 5,000,000. Welcker estimated it at 4,600,000 ; Cramer at 4,726,000. Malassez gives the lowest, placing the number at something less than 4,500,000 ; but he is not very definite upon the subject of healthy average, being more interested in his writings in a description of the instrument and in considerations of diseased blood.

In the most extreme cases of anæmia (excepting only two cases) Hayem never counted less than 3,000,000. In this respect my experience has been similar to his.

---

[1] Loc. cit., p. 295.

II. *Effect of small doses of mercury upon the blood early in syphilis.* —The following five cases all had early syphilis. The chancre was seen and treated upon all except patient *e*, whose primary lesion occurred four months before commencing treatment. The protiodide of mercury in granules, gr. ⅕ each, was used in every case (except *e*), and, as every man's capacity for mercury varies, each patient was ordered to commence with one granule after each meal, and to increase by one granule each day (not each dose) on every fourth day, until there was some evidence of irritation produced by the mercury, when the dose was to be immediately reduced to one-half, and there held until further notice. In the table a double line ═══ ═══ indicates that below that point mercury was taken.

TABLE II.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient a.		
June 21,	3,457,525.	Chancre and indurated glands. Patient thin, delicate; goes to country for summer. Tonics, etc.; no mercury.
July 2,	4,564,062.	Appetite good; mind easy; gain in weight and strength.
July 20,	4,516,900.	Health fair; continue tonics and cod-liver oil.
Sept. 4,	5,283,550.	Fat and well; chancre healed, indurated epitrochlear gland, erythema of fauces; commence mercury.
	═══════	
Sept. 18,	5,327,475.	Three and up to six granules; average gr. j protiodide daily; slight mucous patches on lips, tongue, and throat; no eruption; appetite excellent.
Patient b.		
Aug. 20,	4,586,025.	Chancre healing; commencing roseola; no fever; epitrochlear and post-cervical glands indurated; commence mercury.
	═══ ═══	
Sept. 13,	4,636,450.	Reached six granules ten days ago, since then three daily; roseola.
Oct. 2,	4,863,125.	Slight relapse of roseola, some pains in joints; takes five granules daily.
Oct. 26,	5,396,500.	Roseola and pains gone; mucous patches on tonsils and anus; patient fat, in excellent health and spirits; has recently been taking four granules a day.
Patient c.		
Aug. 28,	4,863,125.	Health good; lives in country; infecting chancre now ten days old; to commence mercury.
	═══════	
Sept. 3,	5,200,975.	Five granules a day with a little iron.
Sept. 22,	6,168,325.	Has gained six pounds in two weeks by change of residence in the country; takes six granules.
Oct. 5,	5,606,125.	Has come to town to work; lost weight; erythema of fauces; faint mucous patches.
Oct. 26,	5,208,250.	Mind depressed, appetite poor; osteocopic pains; plentiful mucous patches; no eruption, fear of which keeps him terribly anxious; looks well; takes six granules daily.
Patient d.		
Sept. 7,	5,127,665.	Chancre eight weeks ago; mercury for nineteen days; eight granules were reached; now four are taken; mucous patches; has had faint roseola.
Patient e.		
Sept. 20,	5,484,350.	Chancre four months back; abundant mucous patches and post-cervical glands; no eruption; probably has been taking mercury, but is not certain; to take three grains of blue pill daily with chlorate of potash.
Oct. 2,	5,578,875.	Mucous patches nearly well.

These cases do not call for much comment: *a* improved greatly under his tonics and hygiene, and still further under a mild mercurial; *b* gained over 800,000 in his count while taking a mild mercurial continuously for ten weeks; *c*, under splendid hygienic surroundings, after taking mercury for twenty-five days, showed an increase in his count of over 1,300,000, corresponding to the clinical expression of improvement denoted by six pounds gain in weight in two weeks; but afterwards, under the depressing influence of poorer hygiene, hard work, and the anxiety caused by the fear of a general eruption, he lost his extra weight, and the gain in corpuscles fell off to only a little over 300,000 above his first count. This man was taking mercury continuously for two months, and, according to Wilbouchewitch, should have fallen off largely from his first count.

a, b, c were first counted before they had taken any treatment—one was delicate, the other two very healthy, yet they all marked below 5,000,000, the healthy standard. Notwithstanding this they all reached above 5,000,000, protected by hygiene and mercury from the depressing influence of advancing syphilis.

d and *e* were not counted until they had taken mercury for some time, and both of them when counted reached above the healthy standard.

III. *Effect of the long-continued use of small doses of mercury upon the blood in syphilis.*—From the following table I have felt obliged to exclude all patients who had taken any of the iodides, making of these latter a special group. I have, therefore, only three patients to offer as examples of the harmlessness—or rather the advantage—of the long-continued use of small doses of mercury alone in syphilis.

TABLE III.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient f.		
June 7,	5,333,750.	Chancre July, 1874. Has taken average of 1⅓ gr. protiodide of mercury daily for eleven months; has occasional mucous patch.
Oct. 22,	5,220,800.	Continued above dose until six weeks ago; since then has taken nothing.
Patient g.		
June 11,	5,647,500.	Chancre in December, 1874. For six months has averaged 1⅓ gr. protiodide of mercury daily; syphilitic rheumatism and mucous patches.
Oct. 8,	4,699,975.	Continued mercury until three weeks ago, when he was thrown from a carriage. He is just out of bed from his injuries, and has lost seven pounds in weight.
Patient h.		
Oct. 4,	5,020,000.	Chancre eighteen months ago; mercury ever since; average gr. j protiodide daily; latterly ⅔ gr. daily.
Oct. 26,	5,208,250.	Continues at same dose; looks and feels well; small elevated papular patch on leg.

To crystallize out the facts from the above cases, it may be added: None were large men; none were naturally robust; one was lymphatic, and not very strong; one belonged to a phthisical family; one had only a short time before recovered from prolonged sickness with an angular curvature of the spine. Yet all, after prolonged use of small doses of mercury for respectively eleven, six, and eighteen months, showed a blood count above the healthy average, and, clinically, were in excellent health; further, *e* lost 100,000 after ceasing his mercury for six weeks; *g* lost 1,000,000 and 7 pounds weight from accidental causes, during the period of loss taking no mercury; *h*, having no drawbacks, maintained his average.

IV. *Effect of mercury in excess upon the blood in syphilis.*[1]—The patient who furnishes the following table lived in the country, visiting me in consultation with his physician. He was a large man, fairly nourished, with a late syphilitic lesion (ten years from chancre) threatening an important function. During his treatment an effort was made to produce mild salivation—the effect of which was, on the whole, somewhat beneficial. He took a mixed treatment.

TABLE IV.

Patient i.

	No of red corpuscles in 1 cubic mm.	REMARKS.
June 9,	4,627,818.	For some time past has taken gr. xl of iodide of potassium t. i. d., and ʒss inunction twice daily of 20 per ct. oleate.
June 20,	4,391,500.	Inunction of ℥iss of oleate daily, and gr. ij iodide, t. i. d.
July 8,	5,333,750.	Manifest improvement in health, appetite, and the function threatened; no iodism or ptyalism; ordered to push inunction; add $\frac{1}{16}$ gr. of biniodide of mercury to internal dose of ʒj of iodide of potassium three time a day.
Aug. 28,	4,398,775.	One month ago diarrhœa and slight ptyalism came on and lasted till one week ago. Patient was greatly depressed at the time; now feels better; takes gr. $\frac{1}{12}$ biniodide of mercury, and gr. xlv iodide of potassium, t. i. d.; no inunction.

Had it been possible to see this patient when salivated and count his blood then, instead of one week after his recovery, I cannot doubt, that his count would have been below 4,000,000. As it was he lost about 1,000,000 by the excessive use of mercury.

V. *Effect of mercury combined with iodides upon the blood in syphilis.*—In this list, which naturally furnished the largest number of patients, it would be fair to expect frequent exceptions to the rule that mercury increases the number of the red corpuscles in syphilis, because so many of those patients who need prolonged treatment late in the disease, become more or less cachectic and broken in general health. I have been, however, surprised at the good showing these patients have made. Only 2 of the 9 cases (*j* and *r*) averaged, on the whole number of counts, below 5,000,000, the normal standard, and this among patients with old syphilis collected at random.

---

[1] Patient *s*, Table VI., is another example of excess in mercury.

TABLE V.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient j.		
June 9,	3,478,078.	Lymphatic, pallid, cachectic. Chancre three years ago; ecthyma on legs; papulo-squamous eruptions on scrotum. Has been taking a mild mixed treatment of late.
July 8,	4,190,150.	Eruption better; has been taking gr. $\frac{1}{12}$ biniodide of mercury and gr. iv iodide of potassium, t. i. d.
July 23,	4,258,165.	Eruption nearly well; has continued biniodide at $\frac{1}{12}$ grain.
Aug. 20,	4,307,344.	Eruption well; iodic acne. Has taken gr. $\frac{1}{24}$ biniode and gr. x iodide of sodium.
Sept. 8,	3,934,425.	Constipation; appetite poor; intense pain in anus at stool. I find fissure of anus and divulse the same.
Sept. 23,	3,733,225.	Fissure well; general condition gradually bettering: takes gr. $\frac{1}{16}$ biniodide of mercury, and gr. x iodide of potassium, t. i. d.
Patient k.		
June 10,	4,944,700.	Chancre ten months ago. Has taken mercury ever since, and lately some iodide. Is over-worked—run down; has ulcerated throat; is taking gr. $\frac{1}{16}$ bichloride of mercury.
July 16,	5,647,500.	In country since last visit. Feels and looks better. Continue mercury, adding gr. v iodide of potassium, t. i. d.
Sept. 4,	4,549,375.	Iodide disagreed. Patient got an attack of diarrhœa with bloody passages, and stopped everything for a time. Is now taking gr. $\frac{1}{3}$ protiodide of mercury daily.
Patient l.		
June 22,	4,894,500.	Tall and thin, not anæmic; lost 25 pounds during past few years since he became syphilitic. Has been under mixed treatment; has large painful node. Has taken gr. xv potass. iod. t. i. d., but no mercury for four months past. Is gaining in weight. To take gr. v more of the iodide of potassium and $\frac{1}{24}$ gr. bichloride of mercury at a dose.
June 29,	5,183,150.	Is now within fifteen pounds of full weight Node less tender.
Patient m.		
July 10,	4,473,075.	Recently taking Donovan's solution. Chancre and eruptions four and a half years ago. Six months of mixed treatment a year ago. Papulo-squamous patches and ulcers on scrotum.
July 24,	4,392,500.	Ulcers have healed under gr. $\frac{1}{16}$ biniodide of mercury, and gr. v iodide of potassium, t. i. d.
Aug. 21,	5,020,000.	Small ulcerated gumma of penis. Health excellent. Has been taking gr. $\frac{1}{12}$ biniodide of mercury, gr. vijss iodide of potassium, t. i. d.
Oct. 10,	6,193,425.	Health splendid. Ulcer of penis well. Has been taking same medicines at doses of gr. $\frac{1}{12}$-gr. x. Is five pounds heavier than full weight in ordinary health.
Patient n.		
July 31,	5,195,700.	Chancre three and a half years ago; mercury ever since, with intervals of rest, recently. One small scaly patch on lower extremity. Patient desires to keep under treatment, as his wife is pregnant with her first child. Takes gr. $\frac{1}{15}$ biniodide of mercury, gr. iv iodide of potassium, t. i. d.
Aug. 20,	5,020,000.	Has taken recently gr. $\frac{1}{3}$ protiodide of mercury, t. i. d., and a little inunction of 5 per cent. oleate.
Oct. 7,	6,092,925.	Just returned from the country in excellent condition. Takes gr. $1\frac{1}{3}$ protiodide of mercury daily.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient o.		
Aug. 20,	4,612,125.	Syphilis several years' standing. Has taken a vast amount of iodides for syphilitic hemiplegia, mania, etc. Physical condition and appetite at present fair; has been taking gr. $\frac{1}{36}$ of the biniodide of mercury, and gr. xxvij of the iodide of sodium, t. i. d.
Oct. 4,	5,547,500.	Has continued medicine steadily, improving in physical appearance.
Patient p.		
Aug. 27,	6,444,515.	In magnificent physical condition. Has taken mercury continuously for nearly three years, and continues to take it until his wife, who is pregnant with her first child, shall have been delivered. Is taking gr. v iodide of potassium, gr. $\frac{1}{12}$ biniodide of mercury, t. i. d.
Sept. 17,	6,226,350.	Has reduced iodide of potassium to 2½ grains at a dose.
Patient q.		
Sept. 22,	4,712,525.	Large man, not anæmic. Chancre twelve years ago; no treatment for many years; threatening of carious disease of bones of the nose and of paraplegia. To take mixed treatment of biniodide of mercury gr. $\frac{1}{16}$, iodide of potassium gr. vijss.
Oct. 22,	5,400,000.	Improvement undoubted, especially of nose.
Patient r.		
Sept. 22,	4,888,125.	Old syphilis; general condition fair; persistent mild tuberculo-ulcerative lesion. Has been taking inunctions, with gr. $\frac{1}{16}$ biniodide of mercury and gr. v iodide of potassium, t. i. d.
Sept. 28,	4,555,650.	For one week has taken gr. xx iodide of potassium, and gr. $\frac{1}{40}$ bichloride of mercury, t. i. d. Eruptions worse.

Not considering any effect the iodides might have had, it will be noticed in these 9 cases, that 7 of them, when first counted, ranged below the normal standard of 5,000,000. That it was not the mercury which produced this effect must be evident upon a careful perusal of the table.

Patients *j*, *k*, *l*, *m*, *o*, *r*, were suffering from a continuation of symptoms of syphilis which treatment had not been able to remove, were more or less blighted by the disease. Patient *q* belonged to the same class, but had taken no mercury for nearly twelve years, and indeed, gained over 600,000 in his count by taking mercury for a month.

The two patients who counted high were in perfect health, and both were continuing treatment simply from fear that, if they did not, some trouble might arise which would affect their pregnant wives and involve their children. One had a small scaly patch, the other absolutely nothing as an evidence of syphilis; and patient *p* made the best count I ever obtained from any one, and had been taking mercury continuously for three years. The other patient reached over 6,000,000 after taking mercury almost uninterruptedly for three and a half years.

Patients *m*, *p*, and even *q*, therefore, speak loudly in favour of the prolonged use of mercury.

Patients *j* and *r* were severe, inveterate cases of disease, and poor specimens of the effect of treatment clinically, as well as microscopically.

k counted low at first, because pulled down by overwork. He reached over 5½ millions at one time, and fell again after diarrhœa with bloody stools.

l reached over 5,000,000 on gaining back a few pounds he had lost.

m, depressed at first under a new outburst of disease, reached above 6,000,000 by three months of mercurial treatment.

o touched 5,500,000 while under observation.

In short every patient of the nine had a general average above 5,000,000, except *j* and *r*.

VI. *Effect of mercury, in hospital, upon the blood in syphilis.*—The blood of the following patients was counted to make a short study of the difference between hospital and private patients. Three cases were selected in the Charity Hospital: one salivated, just admitted; one an old case, in the hospital for two years; one, a new case, with chancre just getting well when admitted.

TABLE VI.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient s.		
June 13,	3,990,900.	Salivated for fifteen days, ten of which in hospital.
June 20,	3,335,162.	Eats but little; salivation improving.
June 27,	4,516,900.	Salivation nearly well, eating well.
Patient t.		
June 13,	3,081,025.	Chancre five years ago; rupia and ulcerations. Has been two years in hospital; ʒij iodide of potassium, t. i. d., lately; no mercury for six months.
June 20,	3,670,875.	Has taken $\frac{1}{16}$ gr. biniodide of mercury, and gr. xv iodide of potassium for a week.
June 27,	3,592,333.	Very positive improvement in ulcers; same treatment.
Patient u.		
June 13,	4,612,125.	Young man; chancre two months ago; ten days in hospital; roseola; no treatment as yet.
June 20,	4,216,800.	Has taken ¼ gr. protiodide of mercury, t. i. d., for a week; roseola disappearing; suppurative peri-adenitis threatening in the groin.
June 27,	4,551,888.	Same treatment; roseola gone; suppuration averted in the groin.

This table tells its own story:

s entered salivated. His count increased after he began to eat.

t debilitated by disease and hospitalism, showed a wretched count. His improvement under observation, I think, was largely due to the greater quantity of good air he got by going out of doors in the pleasant June weather; yet I certainly believe the mercury helped him.

u, if counted daily, might for a time have furnished figures like those given by Wilbouchewitch, yet possibly better, in spite of his threatening bubo, because his dose of mercury was so small.

VII. *Effect of small doses of mercury upon the blood of individuals not syphilitic.*—The material for this table was derived from two sources.

Patient *v*, a young man, badly frightened by an ulcer on the penis the nature of which, when first seen, could not be positively pronounced upon, insisted, for his own peace of mind, upon being treated until the time for the eruptions had passed. He was, therefore, by his own will and consent, put upon mercury, and made the subject of observation. He turned out to have no syphilis, much to his own and my satisfaction.

I made myself the subject of experiment to fill the table.

TABLE VII.

	No. of red corpuscles in 1 cubic mm.	REMARKS.
Patient v.		
June 6,	5,365,125.	Has averaged gr. j protiodide of mercury daily for four months. Has gained in weight: feels perfectly well.
June 27,	5,302,375.	Has gradually diminished dose, taking lately gr. $\frac{1}{3}$ daily.
Myself.		
Sept. 10,	4,775,275.	Just from the country, perfectly well. To take $\frac{1}{5}$ gr. prot-
Sept. 20,	5,572,200.	iodide mercury three times a day for two weeks.
Sept. 24,	5,175,875.	Up greater part of last night with a patient; no appetite for breakfast.
Sept. 25,	5,562,062.	Slept well and was abundantly hungry for breakfast.

Patient *v* ranked far above average after taking mercury for four months, during most of which time he was perfectly well, for his chancroid healed kindly; but the result, in his case, was partly due to his living a more regular life, which his chancroid frightened him into.

As for myself, I started at about my healthy average (see Table I.), and gained over 700,000 in two weeks. I made no change whatever in my mode of life, and took the extra precaution to get Dr. Stimson to make my count on each occasion, he being ignorant what manner of experiment I was subjecting myself to. My loss by one night's watching was made up by the next night's rest.

Conclusion.—From what has been written, it seems fair to conclude that—

1. 5,000,000 red blood corpuscles in the cubic mm. is a full, high average for the adult healthy male. Anæmia very rarely goes below 3,000,000; fine conditions of physical health reach above 6,000,000. In ordinary seasons, in the city, 4,500,000 would indicate a fair state of health. (Table I.)

2. Mercury decreases the number of the red cells when given in excess, especially in hospitals (Wilbouchewitch). (Tables IV. and VI.)

3. Syphilis diminishes the number of red corpuscles below the healthy standard. (Table II., first counts.)

4. Mercury in small doses continued for a short or for a long period in syphilis, alone or with the iodide of potassium, increases the number of red corpuscles in the blood, and maintains a high standard of the same. (Tables II., III., and V.)

5. Mercury in small doses acts as a tonic upon healthy animals, in-

creasing their weight (Liègeois, Bennet's report, above referred to). In larger doses it is debilitating or fatal.

6. Mercury in small doses is a tonic (for a time at least) to individuals in fair health, not syphilitic. In such individuals, it increases the number of the red blood corpuscles. (Table VII.)

210 MADISON AVENUE, NEW YORK, Nov. 15, 1875.

5

THE

TREATMENT OF SYPHILIS,

WITH

SPECIAL REFERENCE TO THE CONSTITUTIONAL REMEDIES APPROPRIATE TO ITS VARIOUS STAGES,

THE DURATION OF THEIR USE, AND THE QUESTION OF THEIR CONTINUOUS OR INTERMITTENT EMPLOYMENT.

BY

EDWARD L. KEYES, M.D.,
PROFESSOR OF DERMATOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

EXTRACTED FROM THE TRANSACTIONS OF THE
INTERNATIONAL MEDICAL CONGRESS,
PHILADELPHIA, SEPTEMBER, 1876.

PHILADELPHIA:

PHILADELPHIA:
COLLINS, PRINTER
705 Jayne Street.

THE TREATMENT OF SYPHILIS.

I. Does a mild beginning in syphilis necessarily indicate that the malady will run a mild course, so that the duration of treatment may be regulated thereby?
II. Is the internal use of mercury debilitating?
III. When is mercury useful in syphilis? Has it any control over the late symptoms?
IV. When is iodine useful in syphilis? Can it replace mercury in any stage of the disease?
V. Does iodine act by liberating mercury lying latent in the tissues?
VI. Should treatment be continuous or interrupted?
VII. General outline of a course of internal treatment.
VIII. Conclusions, negative and positive.

I. *Does a mild beginning in syphilis necessarily indicate that the malady will run a mild course so that the duration of treatment may be regulated thereby?*—My subject restricts me to the constitutional remedies appropriate to the different stages of syphilis, and I shall keep as closely within the prescribed limits as the nature of the question will allow. It is necessary, however, to answer this first proposition before taking up the general consideration of constitutional treatment.

I need not cite authorities to prove that syphilis, commencing mildly, is often looked upon as a trivial, self-limited disease. Such a belief prevails in the minds of many physicians to-day. It has received the sanction of high authority. Diday,[1] of Lyons, has taught it boldly for many years, and Lancereaux in the main supports his views. Diday divides syphilitic patients into two classes. Of these, one class, embracing about two-thirds of the whole number, says Diday,[2] contains cases beginning mildly. The prognosis in these cases is declared to be good; the patients are treated mainly by expectation; and mercury is considered unnecessary and even harmful. Cases commencing severely, the other class, get mercury; but, so the teaching goes, they only get it as an evil less bad than the severe syphilis which it is used to counteract, and the obvious conclusion is that the remedy must be employed during only a short time to overcome the symptoms, and must not be continued to the injury of the patient. Lancereaux[1] is particularly strong on this point, and I think that a similar conviction is widespread among the profession in this country, the general notion being that mercury is bad, and only to be used because syphilis is worse. And even if this were not so, and if the profession should become a unit in regarding any given case of syphilis as liable to prove serious in the end, yet it would still be impossible to subject all cases commencing lightly to prolonged treatment. The ordinary patient can neither convince himself, nor be convinced—after his first alarm is over, and his trivial early eruption past—that he is likely to suffer severely from his disease at some indefinite, future period, and in the conviction that he will not so suffer, his physician is very apt to encourage him.

---

[1] Histoire naturelle de la Syphilis; Paris, 1863.

[2] Diday et Doyon, Thérapeutique des Maladies vénériennes et des Maladies cutanées; Paris, 1876, p. 254.

It is certainly true that most cases of syphilis commencing mildly continue to preserve their mild type whether treated or not, and are not so apt to lead to serious later troubles as where the earlier lesions are bad, the chancre, perhaps, phagedenic, and the first eruption pustular. It is natural that this should be so. Phagedæna is a personal peculiarity, and not a syphilitic symptom, and it is fair to assume that the quality of constitution which allows phagedæna to occur in a given chancre, will also cause the symptoms which follow it to be proportionally severe. It is the same with a tendency to form pus on light provocation, either in the elimination of an internal poison, or from external cause; this pyogenic tendency is a personal matter and by no means a symptom of syphilis, and where it shows itself in the early outbreaks of the disease by a pustular or even by a vesicular eruption, it is only natural that the course of the future symptoms should prove severe.

That these qualities of phagedæna, pustulation, etc., are personal, and not due to the acquisition of any especially bad type of disease, I think is easily demonstrable. I have seen more than once two patients whose syphilis had been derived from the same source, run a widely different course in their symptoms. The fact seems to me to be that an individual shows himself up physically when he is prostrated by the first onset of syphilis. A light beginning in the disease seems to indicate that the patient has power to rally and make a good fight. The physician, therefore, lulls himself into a belief that the patient can manage his disease without much aid from medicine, and, as the remedy, mercury, is regarded as an evil, he concludes that the patient is best off with as little of it as possible.

This reasoning would be unimpeachable were the premises accurate, but they are not so. First, mercury is not an evil. It is not debilitating, but tonic, in health as well as in disease, when continuously used in minute doses. This I think can be proved, and, if so, it becomes obvious that even if only a small percentage of the mild cases of syphilis become severe after a lapse of years, it is justifiable to submit all cases to such a continuous treatment as, itself tonic and beneficial to the patient, shall prove capable of keeping down symptoms during its use and for a considerable period afterward. Second, no one can tell how many cases commencing mildly may become severe in the end. That very many do change in type is certain. The journals abound in such cases, and the experience of those who are accustomed to deal with the disease is always rich in incidents bearing on this point. I need not go beyond my own note-book to illustrate this.

---

[1] Traité de la Syphilis; Paris, 1874, p. 548. "Un certain nombre de spécialistes, etc. . . . se croient obligés d'administrer le mercure pendant plusieurs mois, quelquefois même pendent des années; . . . . loin de s'opposer à la marche ultérieure de la maladie, ils conduisent le malade à l'anémie ou à l'obésité."

CASE I.[1]—A gentleman had chancre and a faint eruption for which he took mercury in considerable doses during a few months. After ten years of health, he had syphilitic iritis, and a gummy destructive ulcer on the penis which resisted eight weeks of energetic treatment (caustics, etc.) at the hands of a surgeon, and cicatrized in three weeks under steadily increasing doses of the iodide of potassium.

CASE II.[2]—A medical student had chancre and indurated inguinal glands which were unmistakably syphilitic. He underwent treatment by small doses of mercury at my hands. His type of disease was so mild that he had no eruption whatever, nor any sign or symptom of disease except one indolent, indurated, post-cervical ganglion. Therefore he concluded that I was in error, and stopped his treatment entirely after a few months. In eighteen months I treated him for syphilitic hemiplegia. He had had no symptom meanwhile.

CASE III.—A physician got an insignificant sore, followed by a slight papular rash. He took no mercury, but was treated by cathartics. The rash went away, and he remained perfectly well for nine years. Then a lump appeared upon the top of his head, and remained stationary during eleven years. But now the patient had a fever, and, on getting up from it, the node spread, softened, and swept away an enormous piece of his skullcap. The wound healed kindly under the use of iodide of potassium.

CASE IV.[3]—A gentleman had urethral chancre. No eruption followed that he could remember. He certainly took no mercury, and remained well for twelve years, when he broke out with syphilitic ecthyma which disappeared after the use of arsenic for a time. Then his brain gave out, and was declared to be softening by one of the most noted experts in nervous disease in Europe. Finally this got better spontaneously, and a rapidly advancing, gummy, destructive ulceration invaded his soft palate. This got well immediately, with great improvement in his other symptoms, under the use of iodide of potassium alone.

CASE V.—A physician got chancre. A few mucous patches in the mouth followed, but, he stated, no eruption whatever. He took mercury for a year. Not a symptom appeared for thirty years. Then he died during a sharp attack of intelligential and convulsive troubles which he would not treat, not believing them to be syphilitic. The autopsy revealed a large gummy tumor in his brain.

CASE VI.—A gentleman got chancre followed by a light eruption. This was treated homœopathically and disappeared. Sixteen years afterwards he applied for treatment, being almost covered with nodes. He had ulcers in his throat and syphilitic lung disease. Steady improvement attended the mixed treatment.

CASE VII.—A gentleman got chancre and fell into the hands of an antimercurialist who dosed him freely and continuously for a year with iodide of potassium and sarsaparilla. His earlier symptoms were not severe. In one year ulcers appeared on both legs. The dose of the iodide was increased. The ulcers progressed in depth and area, three on the right leg measuring over one inch in diameter each. He now changed his physician. His new adviser discontinued the iodide of potassium and ordered protiodide of mercury. Improvement began at once. In two weeks the ulcers were cicatrized. He now ceased treatment, but, after two years, a gummy ulcer destroyed a portion of the septum of the nose; for this he consulted me.

---

[1] Van Buren and Keyes, Genito-Urinary Diseases, etc.; New York, 1874, p. 537.

[2] Ibid., p. 650.

[3] Van Buren and Keyes, Clinical Contribution, etc., Archives of Dermatology, vol. i. p. 108. Cases III. IV. V. and VI. were seen by me in connection with Dr. Van Buren.

These cases are not very exceptional. The list could be largely increased, but I restrict myself to these few cases because they sustain the point at issue from almost every side, and because some of them bear also upon other facts which will be used in subsequent portions of this paper. It will be seen that all these cases had a very light syphilitic attack in the beginning, and that they were all managed differently. Case I. had a light eruption, and took mercury in considerable doses for a few months. Case II. had no early eruption, and took a very little mercury for a very short time. Case III. took no mercury, but was treated by cathartics. Case IV. took no mercury, but was treated by balsams, because his chancre was urethral, and his malady mistaken for gonorrhœa. Case V. took mercury for one year, and remained well for thirty. Case VI. was treated homœopathically. Case VII. was treated for one year with iodide of potasium. I have had no patient who had been syphilized, but the seven cases cover nearly all the other methods of treatment: that by expectation; by cathartics; by diuretics (balsam, etc.); by mercury for a short time in large doses, for a short time in small doses, for a year in fair doses; by homœopathy; by iodide of potassium from the first—and all of these, starting mildly, turned out to be severe cases of syphilis.

It is indeed notorious how many bad cases of disease there are in which there has been very little early eruptive trouble, and in which the previous history of the patient shows treatment only during a few months. This treatment for a few months seems to be what nearly all cases get, and although very many of them, be they light or severe at first, escape serious subsequent trouble, yet there is no guarantee in the prevailing modes of treatment that they will so escape, *nor can a light beginning be counted upon to signify a type of disease necessarily mild.*

I have not thought it necessary to search among the array of corroborative cases which modern journals afford for material to further substantiate this point, preferring to adhere to personal cases, for the history of which I can vouch. I cannot, however, refrain from alluding to a recent article by Fournier,[1] a record of forty-seven cases of cerebral syphilis, and itself a strong argument against the too readily accepted maxim that mild syphilis needs but little treatment. Of the forty-seven cases only two were severe from the first, one was rather bad, thirty were ordinary cases, and fourteen "actually benign." One of these latter was the case of a medical student who got what is termed "un chancre de rien" (a mere trifle of a chancre), had a little papular rash and sore throat only, and took mercury for a few months. After seventeen years of calm, there came an explosion of syphilitic epilepsy, hemiplegia, hebetude, dementia, and death in spite of all the skill and care of Fournier and Ricord. My conclusions to this introductory section therefore are: (1) that all syphilis is severe and treacherous, and that further efforts are justifiable in attempting to perfect its treatment; and (2) that seemingly light cases need as thorough a course of medication as those cases which are apparently more severe.

II. *Is the internal use of mercury necessarily debilitating?*—Time would fail me should I attempt to go into this question exhaustively, yet upon its solution hangs the strongest possible argument for or against a continuous use of mercury. If mercury is an evil, if its influence is debilitating, then its use would only be justified by its ability to overcome some greater evil, some more debilitating agent; and it should be dispensed with in every case as quickly as possible. This indeed is the accepted view of the mercurial question in syphilis. I think, however, that it may be shown: (1) That mercury in minute doses is a tonic, and, (2) That mercury in minute doses has been in use in the profession as a tonic, in non-syphilitic cases, for very many years, and sanctioned by the highest authority.

---

[1] La Syphilis cérébrale, est elle plus commune dans certaines formes de la diathése, etc., L'École de Méd., Aug. 30, 1875.

(1) That mercury in minute doses increases the number of the red blood cells both in syphilitic and in healthy individuals, I think I have demonstrated with the hématimètre, publishing my results in the January (1876) number of the American Journal of the Medical Sciences. To that paper I must refer for details. Space will not allow me to reproduce the evidence here. I have, however, corroborated the conclusions therein reached by repeated, new experiments, during the present year, and these conclusions I beg leave to adduce in evidence now. They are based upon the counting of red blood-corpuscles in over one hundred different specimens of blood, which number has been greatly added to since the publication of the paper without occasioning any modification in the results at first arrived at. These conclusions are: (*a*) That 5,000,000 red corpuscles in the cubic millimetre of blood is a full, high average for the adult, healthy male, etc. (in New York); (*b*) That mercury decreases the number of the red cells when given in excess, especially in hospitals (this was also conclusively proved by Wilbouchewitch[1]); (*c*) That syphilis diminishes the number of red corpuscles below the healthy standard; (*d*) That mercury in small doses, continued for a short or for a long period, in syphilis, alone or with the iodide of potassium, increases the number of red corpuscles in the blood, and maintains a high standard of the same; (*e*) That mercury in small doses acts as a tonic upon healthy animals, increasing their weight. (Liegeois and Bennett cited.) In larger doses it is debilitating or fatal; (*f*) That mercury in small doses is a tonic[2] to individuals in fair health, not syphilitic. In such individuals it increases the number of the red blood-corpuscles.

I must again express regret that I cannot bring out the evidence here, which led directly up to these conclusions in such a way that I can see no possible escape from them, and, referring those interested to the original paper, I again ask to incorporate these conclusions as a part of my present argument. This proof of the tonic action of minute doses of mercury is scientific, but the demonstration from the *clinical side* is no less positive.

(2) We are all familiar with the well-known tonic consisting of a minute dose of corrosive sublimate in compound tincture of bark. I first learned it from the late Valentine Mott, who was loud in its praises as an "alterative" in the cases of strumous children. I cannot trace the authorship of this compound. It is very favorably mentioned as having "been long recommended both for scrofulous taint and the more declared forms of tuberculosis," in Copland's Dictionary of Practical Medicine, 1858;[3] and I find it spoken of as a preparation in common use, in a

---

[1] De l'influence des Préparations mercurielles sur la Richesse du Sang en Globules rouges et en Globules blancs. Archives de Physiologie, 4 et 5, 1876, p. 508.

[2] During as long a period as the experiments were kept up. Keyes, loc. cit.

[3] Vol. iii. p. 760.

lecture by Sir Astley Cooper, which appeared in the Lancet in 1823.[1] He praises it as an alterative "for the removal of chronic diseases in children." Modern ideas of "alterative action" are not very clear, and in connection with this mixture I never understood how mercury could be beneficial, until the truth flashed upon me, while counting blood corpuscles with the hématimètre, that mercury in minute doses was tonic in all cases in which it could be digested. I think that this tonic action of mercury in small doses must have had much to do with establishing the professional confidence in former days in so-called alterative[2] medication.

This conviction of the value of minute doses of mercury as an "alterative" (*i.e.*, tonic), not in syphilis but in all chronic disease, I find to be most deeply rooted in the minds of the older members of our profession throughout the country. I have received many letters, from far and near, from representative men, stating that they had inherited the faith from their preceptors, and had been for years in the habit of using minute doses of mercury, long-continued, as an alterative in chronic debilitating disease; that they had used it empirically, but with good effect. I have received similar answers from all the older men whom I have questioned. What can be stronger evidence than this that mercury in minute doses is tonic, increasing the vitality of the individual; and when to this is added the scientific proof, by actual counting, that mercury increases the number of the red blood-corpuscles, the chain of evidence seems complete. It may be well here to mention a remedy on which many of the profession in New York were accustomed to rely some years ago with confidence for the cure (or certainly the relief) of Bright's disease. It was two grains of corrosive sublimate in an ounce of tincture of the sesquichloride of iron. The dose was ten drops (not minims), containing about one-fiftieth of a grain of bichloride of mercury, a very fair tonic dose; and that improvement attended its use in many cases, is unquestionable. Finally may be cited the popular sanction of minute doses of mercury as a tonic which is found in the history of Swaim's Panacea,[3] a nostrum at one time in very general use. This remedy consisted of a minute quantity of corrosive sublimate in compound syrup of sarsaparilla. Swaim is believed to have gotten the idea from an old book, his first business having been that of a book binder.

While then all the evidence goes to show that minute doses of mercury are tonic, out of syphilis as well as in it, the proof is equally strong that mercury in large doses is debilitating, if at all continued, whether in syphilis or out of it. This is proved by history, by clinical experience, and by actual blood counting with the hématimètre, as has been shown by Wilbouchewitch and by myself, in the articles already referred to.

---

[1] Vol. i. p. 111.

[2] J. Kent Spender, of London, refers to the action of corrosive sublimate (Journal of Cutaneous Medicine, No. 15, 1870, p. 187), saying that it indirectly promotes the nutrition of several tissue elements, and speaks of Dr. Billing's mention of its action as tonic. In a letter to me, Dr. Spender says that Billing (First Principles of Medicine, 5th ed. 1849, p. 109) states that the "tonic" action of mercury illustrates the rationale of the operation empirically called "alterative." He does not enlarge or explain further.

[3] Dr. E. R. Squibb, of Brooklyn, informs me that this nostrum, appearing about the year 1825, was extensively advertised, and enjoyed unbounded popularity, bringing great wealth to its inventor. In 1828, Prof. Hare, of the University of Pennsylvania, discovered mercury in the mixture. He published the fact in the Amer. Journ. of Med. Sciences, vol. iv., 1829, p. 530, whereupon Swaim denied that the "Panacea" contained mercury. In fact mercury does not *now* seem to be one of the ingredients. Mr. Neergaerd analyzed a specimen of Panacea for me, but failed to find any mercury.

III.—*When is mercury useful in syphilis? Has it any control over the late symptoms?*—If it be once admitted that mercury is useful during any stage of syphilis, the proof that it is a tonic theoretically establishes its value during all stages of the disease; for the hématimètre on the one hand, and clinical observation on the other, prove conclusively that syphilis is essentially a debilitating malady, and that it lessens the number of the red blood-cells. Yet mercury is not alone tonic, it is antidotal to syphilis; not only generally to syphilitic symptoms, but specifically when locally applied, as Koebner[1] has shown, particularly for condylomata, referring also to Ch. Hunter and Hebra; and as Monti[2] has demonstrated by causing the local disappearance of patches of eruption by injecting the bichloride subcutaneously into them, while other patches at a distance remained comparatively unaltered. In a general syphilitic eruption, the advantage of combining local with general means is strikingly shown by the much more prompt disappearance of lesions which have been subjected to the local use of mercury, than of the same lesions elsewhere seated and not locally treated. This I have repeatedly noticed.

Every one admits the power of mercury in postponing and modifying the earlier symptoms of syphilis, and of shortening their course when they do appear. Even the anti-mercurialists allow this, their claim being either that mercury prolongs the attack on the whole by postponing the symptoms, since the disease must run its course—or that it suppresses the virus and causes the appearance of tertiary lesions by debilitating the constitution, or in some other way. No statistical or other evidence with which I am familiar has ever established either of these assumptions,[3] while the almost universal advocacy of mercury in syphilis, in one form or another, by a majority of the best minds in the profession in all countries, goes far to show that this is the only honest remedy for syphilis with which the profession is familiar. As for the two points of the anti-mercurialists—that mercury used early only postpones the symptoms, prolonging the total duration of the disease, and that tertiary symptoms are due to mercury—if time allowed, any number of cases might be cited in opposition to this view; such as Cases III. and IV. of this paper, in which, no mercury having been used, the disease was in full force after twenty-one and fifteen years respectively, in the most advanced tertiary type; or Case VII., in which mercury cured tertiary ulcers, which failed to improve under fair doses of iodide of potassium, in a patient who had been treated by the latter remedy alone for a year after his chancre appeared.

---

[1] Archiv f. Derm. u. Syph., B. I., S. 628; quoted from Jahresber. d. schles. Gesellsch. f. vaterländ. Cultur.

[2] Jahrbuch. f. Kinderheilkunde, 1869, S. 381. Beobachtung über die Behandlung der Syphilis congenita et acquisita mittelst subcutaner sublimatinjectionen.

[3] Undoubtedly statistics exist on both sides of the question, but they fail to prove anything positive. Quite recently Jullien (Gaz. Hebd., Sept. 18 and Oct. 2, 1874), in a statistical paper attempting to establish the proportion of cases of tertiary disease occurring in those who had taken mercury for their earlier symptoms, as compared with those who had been otherwise treated, found in 218 cases of tertiary disease that 59, more than one quarter, had not taken mercury, while all the rest had taken it. The number of cases of nervous syphilis he noted to be much greater proportionally in those who had taken mercury. All this, however, proves nothing except that syphilis naturally runs on to tertiary symptoms when untreated. Statistics cleverly handled are capable of proving almost any thing in relation to syphilis, because the disease itself is so capricious. In this case the statistics were made up from letters received from physicians in France, England, and Italy, and undoubtedly in these countries three-quarters of the well known physicians give mercury early in syphilis, and it would be but fair that three-quarters of the cases of tertiary syphilis found should turn out to have taken this remedy. This is especially probable when the statistics are compiled by one who is no lover of the drug, and his figures lose all value when it is remembered that there is no record of the cases which did not become tertiary under the mercurial and anti-mercurial courses.

That mercury retains its value late in syphilis is amply illustrated by the well-recognized power of the mercurial, general fumigation, in many advanced forms of syphilitic ulceration, late in the disease; by the great value of what is known as the mixed treatment, especially in controlling peculiarly chronic and grave symptoms of late syphilis; and by the numerous cases of nervous syphilis found in the journals of the day, in which the turn in the symptoms is noted as the point at which the gums became touched. Occasionally a case is found in which the customary forms of iodine cannot be borne late in syphilis, or in which they do not seem to meet the requirements of the disease. Under these circumstances an appeal to mercury alone will often yield a victory over symptoms until then rebellious. Case VII. of this paper is in point, mercury having succeeded where iodine had failed. While then it seems not doubtful that mercury retains its power in every stage of syphilis, yet it is no less true that it cannot be relied upon in emergencies in certain, especially the gummy, forms of tertiary disease. Here the different preparations of iodine take the lead.

As a final illustration of the power of mercury over tertiary lesions may be cited its undoubted value in inherited syphilis. Here the lesions are grouped in a disorderly manner—tertiary, perhaps gummatous, disease of the bones, lungs, kidney, thymus gland and liver, often accompanying secondary symptoms on the skin and mucous membranes—yet in these cases mercury is generally relied upon, and often proves capable alone of routing the enemy. I conclude, therefore, that mercury is of value during the whole treatment of syphilis, in minute doses throughout, for its tonic and anti-syphilitic action; in larger doses, as the occasion arises, to suppress outcropping symptoms, the action here being purely anti-syphilitic, and not tonic.

IV. *When is iodine useful in syphilis? Can it replace mercury in any stage of the disease?*—In studying this point, I have again had recourse to the hématimètre to watch the effect upon the red blood-corpuscles of the internal administration of the preparations of iodine. My conclusion, based upon a considerable number of blood-counts made by myself, and many by my friend Dr. L. A. Stimson, is that iodide of potassium is a tonic, and increases the number of the red blood-cells. It does this in all stages of syphilis. I have not yet tried its effect upon the healthy individual, but notably in some experiments by Dr. Stimson this point came out, that while iodide of potassium, given immediately after the appearance of a chancre, increased the red blood-cells with proportionally greater rapidity than did mercury given under similar conditions (for the effect of mercury during the first depression preceding the outcrop of the earliest eruption is often very slight), yet, in spite of this greater increase in the number of the red blood-cells, the administration of iodide of potassium did not retard the appearance of the secondary symptoms to the same extent as did the use of mercury. This fact corresponds to the well-known results of the experiments of Grassi, who determined that iodide of potassium increased, while mercury decreased, the proportion of the red blood-cells to the whole mass of blood when used in syphilis. In Grassi's day, mercury, when used at all, was always given in excess, and his conclusions, although obtained by chemical methods mainly, are undoubtedly accurate.

These statements of Grassi have been made use of to construct a rule of practice; namely, to give iodides and tonics early in syphilis, avoiding the supposed depressing influence of mercury. But when it appears that the iodides do not seriously interfere with the outcrop of the early eruptions, while mercury certainly does; and when it turns out that mercury in small doses (but large enough to greatly modify the disease) is tonic, the rule of practice founded on Grassi's experiments fails to find any scientific support, and must fall to the ground. Case VII. in this paper illustrates this point. This patient was dosed with iodide of potassium for a year, but his early eruptions appeared none the less, although they were undoubtedly mild, and his tertiary symptoms came on in due time, perhaps as early as they would have come had no treatment been used. Iodine doubtless has some modifying influence over syphilis during its whole course, but not enough to make it wise to substitute this drug for its more powerful rival early in the disease.

I see no reason to believe that iodine has any eliminative power in syphilis, and I have failed to discover any evidence to show that it tends to prevent relapse. That it holds a place, however, in the treatment of syphilis, is undoubted; and a very high place it is. When tissue-infiltrations take place; when the lesion approaches the gummatous type; when there is considerable connective-tissue proliferation, especially if it takes place rapidly, whether the affection is of an external or of an internal organ; when nodes form upon the bones; when the cartilages begin to soften; when ulceration is spreading rapidly, then the preparations of iodine used unsparingly for the symptom are the right hand of treatment. Here nothing can replace iodine. To its benign influence, when well assimilated and rapidly pushed, the most formidable lesions yield a quick response.

In certain of the chronic lesions occurring late in syphilis, the power of mercury is greatly enhanced by combining some preparation of iodine with it; but where the lesion is a gumma, mercury may be dispensed with at once, and entirely, and iodine pushed with a lavish hand until the symptom yields. Mercury, however, must be resumed to seal the cure and prevent relapse, and it must be given with long patience and scrupulous care that it is thoroughly assimilated. In syphilis, therefore, when the lesion is gummatous, no matter where it is situated, iodine may replace mercury with profit to the patient; but under no other circumstances can it take the place of this drug, although it may often be advantageously combined with it. Iodine is indeed what many have considered mercury to be, a remedy not at all curative of syphilis, but causing the disappearance of certain of its symptoms. A curative agent it is not, because it has little if any power of shortening the duration of the disease, of keeping off or modifying many of its symptoms, or of preventing relapse.

V. *Does iodine act by liberating mercury lying latent in the tissues?*—I think that this question may be briefly disposed of in the negative. That iodine taken at the same time renders a given quantity of mercury more active, is probable, this being perhaps the secret of the success of the mixed treatment for chronic obstinate lesions, not gummatous. But whatever power as an anti-syphilitic remedy iodine possesses, it probably exercises by its merit as a tonic, increasing the number of red cells in the blood; for this it does even early in the disease, in spite of the depressing influence of the virus.

When a patient has been carrying a certain amount of mercury without showing it in the mouth, the sudden administration of iodide of potassium may call forth symptoms of salivation. Indeed, iodides given alone, in some exceptional cases, have produced quite marked symptoms of mild salivation. But a little positive evidence outweighs any amount of negative testimony, and whatever power iodine may have in rendering mercury active, still, in its own sphere, in controlling gummy exudation in any of its forms, iodine does not yield a hair's breadth to any remedy, or demand the least assistance from mercury. An excellent case bearing on this point was printed editorially in the Gazette des Hôpitaux for January 28, 1860.[1] Cases III. and IV. of this paper are directly in point, iodine alone having cured patients who had never taken mercury. Case VII. might be referred to as evidence on the other side; but, as I have already stated, some forms of tertiary disease, notably some of the ulcers, seem to demand mercury for their treatment, and yield to it much more promptly than to iodine. In this case, also, I could not ascertain to what extent the iodide had been pushed, and at best the evidence is negative, while the other is positive.

The late Prof. Boeck, of Christiania, informed me, while in this country, that, when tertiary symptoms occurred in his patients who had been treated solely by syphilization, he was in the habit of using iodide of potassium with good effect, combined with a continuance of syphilization. In these cases surely there was no antecedent mercury, the liberation of which could do the work. And finally, in proof that the iodine possesses the power, it is only necessary to recall that, in those frightful cases of devastating disease which we sometimes meet with, and which yield to the iodides, the dose must not be restricted, but pushed with rapidity up to the point of tolerance, the amount of the dose assimilated being in direct relation to the rapidity of cure.

VI. *Should treatment be continuous or interrupted?*—The answer to this question has already been brought out in what has been written. The continuous use of iodine need hardly be considered, for I feel unable to include this drug among the curative agents of syphilis. It has enormous power in overcoming certain symptoms, but as these symptoms are intermittent, the use of iodine should also be interrupted. While the symptom lasts, and for a certain time afterwards, iodine is called for; but as it does not prevent relapse, or shorten the whole course of the disease, there is no occasion for its prolonged use. Mercury, on the other hand, has received the palm as the anti-syphilitic, at least the symptomatic, anti-syphilitic, remedy, *par excellence*, from a majority of the best medical scholars and authorities up to the present time. It is an antidote to the poison, whatever the nature of that poison may be. I think that the results of blood-counting by the hématimètre, used upon the blood of syphilitic patients who had taken small doses of mercury continuously for long periods (over three years),[2] proves that mercury is not debilitating, but, indeed, a tonic, when used in minute doses.

---

[1] Although the writer states that he thinks iodine often does not act well unless mercury has been previously used.

[2] Keyes, loc. cit.

Clinical experience also has convinced me of the value of the continued treatment. I have employed it in all cases, light or severe, in which I could control the patient, since the early spring of 1869. Generally I have not commenced treatment until the post-cervical and epitrochlear, glandular engorgement, and an eruption, have come to confirm the diagnosis. My observation has included nearly all the cases of my partner, Professor Van Buren, and I have to thank him for his kindly suggestions which have led to many of the steps in this investigation, an investigation which has convinced us both more than ever of the value of the uninterrupted use of mercury in small doses in the treatment of syphilis. It has become a rule with us, to which we find but few exceptions, that patients, after acquiring syphilis, remain in as good and often in better health while under treatment than previously. Severe cases are the rarest of exceptions, and tertiary symptoms (in those treated from the start) nearly unknown. Slight localized lesions, such as a scaly spot on the palm, a cluster of a few papules here or there, appearing from time to time, are, customarily, all that mark a continuance of the disease, except the lesions of the throat and mouth. Slight ulcers about the throat, mucous and scaly patches in the mouth and on the tongue, are apt to persist and recur at intervals, for long periods. These are the main, very often the only, symptoms requiring attention after the first eruption has passed, and they respond to local measures, or to a slight increase in the strength of the general treatment.

Usually the continuous treatment is kept up for from two and a half to three and a half years, or even longer, and in all cases, if possible, until six months, and sometimes a year or more, after the appearance of the last syphilitic symptom. Many of the patients so treated are now married and raising healthy families—themselves to all appearances perfectly well.

Of course it is impossible to state how many of these patients are absolutely exempt from any further relapse. Seven years and a half are not sufficient to pass final judgment on any method, but against other methods may be urged: (1) That the numerous bad cases constantly met with have all been treated by them; (2) That salivation is certainly harmful; (3) That mercury, not pushed to salivation, but used in large doses, has been proved to be debilitating by the hématimètre (Wilbouchewitch, Keyes), by clinical experience, and by experiments upon animals (Liegeois, Bennett, Wilbouchewitch, and others); (4) That the intermitting treatment is simply symptomatic, and virtually makes one confess that he has no remedy for the disease, but can only moderate the symptoms until such time as they may see fit to cease to reappear.

For the continued treatment with minute doses of mercury it may be urged, on the other hand: (1) That it has given good results thus far (seven and a half years); (2) That it is scientifically and theoretically correct to use continuously for a given evil an antidote which can itself be proved to be beneficial to the individual, be he sick or well; (3) That it seems proper to use an antidote continuously against a poison which is continuous, although having long periods of latency. For the poison must be continuous and still present in the tertiary stage, although it has then lost much of its virulence and power of transmissibility. How else can we account for the undoubted fact that parents with tertiary disease may produce children with inherited syphilis (I have notes of such cases), and inherited syphilis is well known to be capable of transmitting itself in full force to the nurse and other healthy persons by contact: (4)

That this continued treatment is only a modification of the "coup sur coup" plan, so widely practised, for the quantity of mercury is augmented upon any outcrop of symptoms, the minute, continuous dose being maintained in the intervals. It is, indeed, not very widely different from the common, symptomatic, interrupted treatment, yet I cannot but believe that it is a great improvement upon both of the ordinary plans.

VII. *General outline of a course of treatment in a typical case.*—When the first eruption appears, or sooner if by confrontation or other sure means the existence of syphilis is placed beyond any possible doubt, my habit has been to put the patient upon a mercurial, and to increase the dose, slowly if there is time, more rapidly if the eruption is pressing, paying all possible attention to hygiene, food, surroundings, care of teeth, etc., until slight diarrhœa with colicky pain is complained of, or until the gums just begin to be touched. The amount required to produce this effect is now known to be the patient's dose, beyond which he cannot safely go without aid from opiates, or changing the form of administering the drug, and at which, if it is maintained, the effect on the general health will be injurious. Having found this dose, it may be maintained, if the eruption demands it, by giving opium, bismuth, rice, milk, etc., until the symptom yields; then it should be reduced to one half, or a little below this point (this dose will prove tonic to the patient), and there maintained day after day, continuously, year in and year out, waiting for other symptoms.

Should such symptoms occur, for there may be none except mucous patches, which local means will relieve, I think it is well to give the patient mercurial baths,[1] when practicable, two or three times a week or oftener if they do not prove depressing, maintaining the same internal dose. Instead of this, the half dose held in reserve may be immediately or gradually added to the tonic dose, or inunction may be practised, until the symptoms are subdued, when the tonic dose is to be again resumed and unremittingly continued.

Later in the disease, should any of those symptoms supervene which are known to be favorably influenced by iodine, the iodide of potassium or sodium may be combined with the mercurial (preferably with the biniodide of mercury), and the two continued (mixed treatment).

Should cerebral symptoms come on; or bones, or nerves, or muscles, or viscera, or any of the tissues become involved in any of the forms of gummatous growth (this, however, I have not yet seen in any case where the directions have been strictly followed from the first); then the iodides are to be used unsparingly for the symptom, it being of little importance whether the mild mercurial is continued for the time being or not.

Many deviations from this simple course may be necessitated by varying cases, especially when the continuous treatment is only commenced late in the disease. I think that a case treated from the first symptom should receive mercury continuously, in small doses, for a period not less than two and a half years, or, in any event, until at least six months have passed after the entire disappearance of the last clearly syphilitic symptoms. It is hardly necessary to add that all treatment may be suspended without ultimate disadvantage should any acute disease accidentally occur within the limits of this time.

---

[1] Two drachms of black oxide after a few minutes of steam (not hot air), the whole bath to last not over twenty minutes, is a fair average.

My time has expired, and it would be hopeless for me to attempt to take up a consideration of exceptional cases, either of patients such as those who cannot take mercury or iodine, or of peculiar forms of disease, or surrounding circumstances, where these remedies seem powerless, and where an appeal to change of air, or to derivation by the bowels (Zittman's decoction), or derivation by the skin (syphilization or tartarization), seems to effect more than can be done by following the rules established by success in the majority of cases.

I cannot consider the value of mercury locally, as a means of treatment of the lesions, or of other local remedies; nor the relative value of iodine used as the tincture (internally), or as the iodide of potassium, of sodium, of ammonium, of calcium, or of amylum, or as metallic iodine with albumen, or as iodoform; nor of the varied use of these agents by the stomach or rectum. My remarks have been general, and intended to apply to the typical case, and I have endeavored to group them so as to lead up to the following negative and positive conclusions, which I now beg respectfully to lay before you, and on which I ask the expression of your opinion.

Negative Conclusions.—Views for which there would seem to be no positive foundation in fact:—

I. Syphilis commencing mildly needs but little treatment, and does not require mercury.
II. Mercury given internally is necessarily debilitating.
III. Mercury is only useful in secondary syphilis.
IV. Iodide of potassium is of considerable value in secondary syphilis.
V. Iodide of potassium is of no value unless preceded by the use of mercury.
VI. Iodide of potassium acts by liberating mercury which has been lying latent.

Positive Conclusions.—Propositions which, in the present state of our knowledge, may be affirmed:—

I. Mercury is an antidote to the syphilitic poison, and of service in controlling all its symptoms in all (even the latest) stages of the disease, its power over gummata being least marked, and not to be relied upon.
II. Mercury in minute doses is a tonic.
III. Iodine cures certain symptoms of syphilis, but does not prevent relapse.
IV. The use of mercury, long-continued, uninterruptedly as far as practicable, in small doses, from the time of the earliest eruption, constitutes the best treatment of syphilis.

SEPTEMBER, 1885.

Monographia ♦ Syphilitica;

(ESPECIALLY ILLUSTRATED.)

A JOURNAL DEVOTED TO THE TREATMENT OF DISEASES
OF THE BLOOD BY

"SUCCUS ALTERANS."

EDITED BY
GEO. W. McDADE, M. D.
MONTGOMERY, ALA.

◆

ELI LILLY & CO.,
PUBLISHERS,
INDIANAPOLIS, IND.,
U. S A.

CERTIFICATE OF AUTHORITY.

No. 34 Dexter Ave., Montgomery, Ala., December 15, 1884.

This is to certify to the medical profession that Eli Lilly & Co., manufacturing chemists, of Indianapolis, Ind., U. S. A., are the only manufacturers of my remedy for blood and skin diseases, "Succus Alterans" (McDade), and no one else makes the preparation under my sanction, or has the right to use my name in connection therewith.

That all preparations purporting to be *the same*, and called "*McDade's Prescription*," "*Alterative Compound*," etc., are wholly unauthorized by me, and parties using my name in such connection are doing so in opposition to my formal protest.

That each pint bottle of "Succus Alterans" (McDade) contains *in natural combination* the *unimpaired virtues* of *sixteen troy ounces* of the *true medicinal plants, Stillingia Sylvatica, Smilax Sarsaparilla, Phytolacca Decandra, Lappa Minor, and Xanthoxylum Carolinianum,* collected in their native growth under my personal supervision, and manufactured while still in the green state, the compound being made in the same proportions as indicated in my original formula, published by Dr. J. Marion Sims, in the *British Medical Journal, March* 10, 1883, and indorsed by Dr. B. Rush Jones, and many other eminent physicians.

That I have been impelled to this course solely in answer to the obligation placed upon me by the publication of Dr. Sims' paper, and the consequent demand upon me personally for a strictly reliable and uniform preparation, made only from *green drugs, collected in proper season*, and such I guarantee the preparation "Succus Alterans" (McDade) to be.

Geo. W. McDade.

SPECIAL CAUTION TO PHYSICIANS.

Physicians in prescribing **McDade's Remedy** for syphilis should be very careful to write **"Succus Alterans (McDade),"** and see that the druggist to whom prescriptions are sent have the preparation made by **ELI LILLY & CO.**

There is no excuse for substitution, and physicians may guard against it by examining a sample of the genuine as to color, taste, and odor, after which they will always be able to recognize it.

It must be kept in mind that every reported case of the cure of syphilis, in the last two years by the McDade treatment, has been by the use of **Succus Alterans,** which is made only by **Eli Lilly & Co.,** under authority of **Dr. McDade.**

SUCCUS ALTERANS is always sold in pint, round amber bottles, and NEVER IN BULK.

On receipt of $2.00 we will forward one pint bottle "Succus Alterans" (McDade). securely packed, by express, or it may be obtained through wholesale or retail druggists everywhere.

Very respectfully,

ELI LILLY & CO.

Pharmaceutical Chemists,

Indianapolis, Ind., U. S. A.

TABLE OF CONTENTS.

ORIGINAL REPORTS AND CONTRIBUTIONS.

		PAGE.
Secondary and Tertiary Syphilis and Syphilitic Psoriasis	*Geo. H. Bosley, M. D*	3
A Case of Recurrent Iritis, with Specific Eruption	*Arthur Matthewson, M. D*	3
Cure of Tertiary Syphilis	*Joseph W. Howe, M. D*	4
Cure of Obstinate Leg Ulcer	*A. W. Catlin, M. D*	4
Results in Syphilitic Disease of the Nose, Mouth and Throat	*D. H. Goodwillie, M. D*	5
Scrofula and Syphilis	*G. C. Brown, M. D*	5
Cure of Syphilis—Diuretic Action Marked	*John C. Lester, M. D.*	5
Confirmation of Former Reports	*Nelson B. Sizer, B. S., M. D*	6
Syphilis of Five Years' Standing Cured	*D. D. Stevens, M. D*	6
A Case of Cancer Much Benefited	*B. Merrill Ricketts, M. D.*	7
Report of General Use in Charity Hospital	*L. L. Seaman, L. L. B., M. D.*	7
A Case of Tertiary Syphilis, Confirmatory Report	*Waldron B. Vanderpoel, M.D.*	8
Confirmation of Former Reports	*J. C. De Varona, M. D*	8
An Excellent Tonic in General Debility	*Constantine F. Maguire, M.D.*	8
A Case of Secondary Syphilis	*C. J. Ricker, M. D*	9
Excellent Results in Secondary Syphilis	*Henry L. Cochran, M. D.*	9
Cure of Five Cases of Syphilis	*W. W. Crook, M. D*	10
Cure of Tertiary Syphilis	*J. B. Sullivan, M. D.*	10
Crypta Syphilitica. (Illustrated)	*Ephraim Cutter, M. D.*	11-15
The Alterative "Par Excellence"	*Frank Byington, M. D.*	29
Imitations Fail	*S. McNully, M. D*	29

REPRINTS AND SELECTIONS.

Observations on Phthisis and Pneumonia in Their Relation to Syphilis. A Study of One Hundred Cases. (Fully illustrated with colored plate, etc.)	*William Henry Porter, M. D.*	17-25
Only the Genuine Succeeds	*N. Y. Drug News*	10
The Treatment of Syphilis. (Reprint from the British Medical Journal.)	*J. Marion Sims, M. D*	26-29
Letters from Dr. J. Marion Sims		28,29
Dr. McDade's Treatment		15
Certificate of Authority		Second Page Cover
Special Caution to Physicians. Price		Second Page Cover
How to Obtain Supplies		Fourth Page Cover
List of Wholesale Druggists Who Keep Succus Alterans in Stock		30,31
Agency for Great Britain, Indian Colonies and Continent of Europe		31

ADVERTISEMENTS.

List of New York, Brooklyn, Philadelphia and Boston Hospitals in Which Succus Alterans (McDade) is Used	2
Elixir Purgans (Lilly)—A Perfect Liquid Cathartic	16
Report of Extensive Use of Elixir Purgans at Bellevue Hospital, New York	16
Syrup Yerba Santa Aromatic (Lilly)—A Perfect Mask for Quinine	32
Fluid Golden Seal (Non-Alcoholic) (Lilly)	32
Aromatized Liquid Pepsin (Lilly)	32
Pil. Aphrodisiaca (Lilly)	Third Page Cover
Fluid Extracts, Gelatin-Coated and Sugar-Coated Pills	Fourth Page Cover

SUCCUS ALTERANS (McDADE)

IS NOW BEING USED IN THE FOLLOWING HOSPITALS IN

NEW YORK, BROOKLYN, PHILADELPHIA AND BOSTON.

NEW YORK CITY.

Bellevue Hospital, Bureau of Medical and Surgical Relief for the Out-Door Poor.
Charity Hospital,
Roosevelt Hospital,
St. Luke's Hospital,
New York Skin and Cancer Hospital,
Mount Sinai Hospital,
Manhattan Eye and Ear Hospital,
St. Francis' Hospital,
Out-Patient Department New York Hospital,
The New York Post-Graduate Medical School and Hospital,
New York Polyclinic,
Infants' and Children's Hospital, Randall's Island,
New York Eye and Ear Infirmary,
New York Ophthalmic and Aural Institute,
Metropolitan Throat Hospital,
Home for Incurables, Fordham, N. Y.,
Demilt Dispensary,

BROOKLYN, N. Y.

Brooklyn Eye and Ear Hospital,
St. Mary's General Hospital,
Long Island College Hospital,
Brooklyn Hospital,
Kings County Hospital,
St. John's Hospital,
Hospital for the Treatment of Nervous Disease,
Long Island College Hospital Dispensary,
Brooklyn City Dispensary and Eye and Ear Infirmary,
Southern Dispensary and Hospital,
Brooklyn and E. B. Dispensary,

PHILADELPHIA.

Jefferson Medical College Hospital,
The Hospital of the University of Pennsylvania, Out-Patient Department,
The Philadelphia Hospital,
The Episcopal Hospital,
The Howard Hospital,
The German Hospital,
Jefferson Medical College Hospital, Out Patient Department.

BOSTON.

Massachusetts General Hospital, Out-Patient Department,
Boston City Hospital, Out-Patient Department,
Carney Hospital, Out-Patient Department,
The Children's Hospital, Out-Patient Department,
Boston Dispensary,
Massachusetts Charitable Eye and Ear Infirmary.

MONOGRAPHIA SYPHILITICA.

MONTGOMERY, ALABAMA, SEPTEMBER, 1885.

SECONDARY AND TERTIARY SYPHILIS AND SYPHILITIC PSORIASIS.

Letter from Geo. H. Bosley, M. D., Attending Physician Out Door Department Bellevue Hospital, N. Y.; late House Surgeon Charity Hospital, Blackwell's Island, N. Y.; late Physician in charge Relapsing Fever Hospital, N. Y.; Member County Medical Society, etc., etc.

229 W. 52D ST., NEW YORK, JUNE 16, 1885.

DEAR DR. MCDADE:

I have used your formula "Succus Alterans" in three cases with excellent results. The first, a case of secondary syphilis, had taken mercurial treatment for three (3) weeks, when I placed him on your preparation, since which time he has taken no other medicine, and has made steady and rapid improvement. My second case was one of tertiary ulceration and orchitis, with periosteal nodes. Your formula worked admirably. The third was a case of syphilitic psoriasis, and is now under treatment, improving nicely.

Very truly yours,

GEO. H. BOSLEY, M. D.

A CASE OF RECURRENT IRITIS, WITH SPECIFIC ERUPTION.

An Important Letter to Dr. Thos. J. Woolfolk, from Arthur Mathewson, M. D., Surgeon Brooklyn Eye and Ear Hospital; Surgeon-in-Chief to Department of Diseases of the Eye and Ear St. Mary's General Hospital; Professor of Opthalmology Long Island College Hospital, Member N. Y. Ophthal. Society, etc.

139 MONTAGUE ST., BROOKLYN, N. Y., JULY 2, 1885.

DR. THOS. J. WOOLFOLK:

DEAR DOCTOR—It gives me pleasure to state that I have made trial of the "*Succus Alterans*" in a number of syphilitic cases, and with undoubted benefit.

In one case of recurrent iritis, with specific eruption, it showed to especial advantage by bringing the symptoms under more speedy control than had been done in previous attacks by the usual method of treatment with mercurials and Iodide of Potassium.

Yours very truly,

ARTHUR MATHEWSON, M. D.

CURE OF TERTIARY SYPHILIS.

Statement of Joseph W. Howe, M. D., late Professor of Clinical Surgery in Bellevue Hospital Medical College; Fellow of New York Academy of Medicine; Member of New York Surgical, Pathological and County Medical Societies; one of the Consulting Surgeons to Dr. Goodwillie's Private Hospital for Diseases of the Nose, Mouth and Throat, N. Y.; Visiting Surgeon to Charity and St. Francis Hospitals.

38 WEST 24TH ST., NEW YORK, JUNE 1, 1885.

I have had an opportunity of using Succus Alterans (McDade) in one case of tertiary syphilis of two years' standing. Two months' treatment *completely healed* the ulcers on the legs and head. At the present time the patient seems to be entirely well.

JOSEPH W. HOWE, M. D.
Visiting Surgeon Charity and St. Francis Hospitals.

CURE OF OBSTINATE LEG ULCER.

Letter from Dr. A. W. Catlin, Attending Physician to St. Johns Hospital, Member of Kings County Medical Society, Physician to the Mutual Aid Association, etc.

207 GREENE AVE., BROOKLYN, NEW YORK, JUNE 1, 1885.

DR. GEO. W. McDADE:

DEAR SIR—It gives me pleasure to report favorably of the "Succus Alterans" in a case of obstinate leg ulcer where the patient, a young woman of 28 years of age, had suffered some five years with ulcers, first in one limb and then in the other, the same location being chosen, along the middle and lower third of the tibia on each leg.

A great variety of treatment had been resorted to, and the various schools of medicine had been tested, but no permanent result gained.

Four months from date patient came under my care, depressed, debilitated and anæmic, with large sloughy ulcer on lower third of tibia and two smaller ones beneath the knee of same limb.

Elix. Gentian et tr Ferri Chlor. and Stone's cod liver oil given three times a day; locally, Balsam Peru Ointment and Napthaline. Patient improved in degree constitutionally but no great change locally. After a month, large doses of Potass. Iodide were given in place of the Gentian and Iron; oil continued, and locally Napthaline. Another month, and no great advance of the healing process being recorded, the Potass. Iodide was abandoned, and patient put upon full doses of "Succus Alterans" (McDade.) Within a week marked progress was noted, and granulations being then in a healthy condition, I took a skin graft from my own arm and succeeded in forming an island on the center, which quickly threw out its peninsulas and *soon active healthy growth was established in all directions.* At the present writing this ulcer, two and a half by three inches in diameter, has entirely healed, and the others, though slower to respond, are rapidly following, having received their first real impetus, as I believe, after the system was brought under the effect of the "Succus Alterans" (McDade).

The specific character of the trouble was conceded by all the many consulting physicians who saw the case, but its failure to respond to the *routine* treatment in such conditions, goes to show that we now have in your preparation a valuable addition to our remedies in such cases.

Yours very truly,
A. W. CATLIN, M. D.

GOOD RESULTS IN SYPHILITIC DISEASE OF THE NOSE, MOUTH AND THROAT.

Letter from D. H. Goodwillie, M. D., Surgeon in Chief to the Private Hospital for Treatment of Diseases of the Nose, Mouth and Throat, New York; Late Clinical Assistant to the Metropolitan Throat Hospital; Permanent Member of the American Medical Association; Fellow of the N. Y. Academy of Medicine; Honorary Member of the Canada Medical Association; Member of N. Y. Neurological Society; of the Medical Society of the County of New York, etc.

160 West 24th St., New York, June 10, 1885.

Dr. G. W. McDade:

Dear Sir—On the recommendation of my lamented friend, the late Dr. J. Marion Sims, I have been using the "Succus Alterans" in cases of syphilitic disease of the nose, mouth and throat, and it has thus far given me very good results.

D. H. Goodwillie, M. D.

SCROFULA AND SYPHILIS.

61 East 25th St., New York, May 30, 1885.

Geo. W. McDade, M. D.:

Dear Sir—I have used your Succus Alterans in cases of syphilis and of scrofula with most decided benefit. I notice the first signs of improvement to be an increase of appetite and better assimilation of food. The patients who have taken it gained in weight, and have a more cheerful feeling. Sleep more quietly. *The red blood corpuscles are greatly increased in numbers.*

Two cases now under treatment will be worthy of record. Their improvement is so great I have no doubt of a complete cure.

Cordially yours,

G. C. Brown, M. D.

CURE OF SYPHILIS.—DIURETIC ACTION MARKED.

Letter from Dr. J. C. Lester, Editor of the American Medical Digest, New York, Member of Kings County Medical Society, Surgeon to Southern Dispensary and Hospital, etc

101 Second, Brooklyn, April 7, 1885.

Dr. McDade:

Dear Doctor—I desire herewith to extend to you my testimony in regard to the value of Succus Alterans in the treatment of syphilis.

Although, thus far, I have never used your preparation in any single case exclusively, I may state that in the cases where I have used it it has been valuable. Especially was this the case in a patient where the mixed treatment caused violent gastric disturbance. Succus Alterans being substituted, was well tolerated, and, as far as heard from, has effected a permanent cure.

The marked diuretic action of this remedy has not, I believe, been mentioned, but it has almost uniformly been remarked by those to whom it has been administered.

Yours, fraternally,

John C. Lester, M. D.

CONFIRMATION OF FORMER REPORTS.

Letter from Nelson B. Sizer, B. S., M. D., Member Kings County Medical Society, Senior Surgeon Brooklyn and East Brooklyn Dispensary, Fellow of the State Medical Association, etc.

886 GREENE AVE., BROOKLYN, NEW YORK, JUNE 5, 1885.

DEAR DR. MCDADE:

I am glad to report continued satisfaction in the use of the "Succus Alterans."

I have used it very freely as an alterative during the past six months, and am entirely satisfied with my results.

Some of the cases are very instructive; one, a child with congenital syphilis, was a typical example; snuffles, sore nose and mouth, condylomata, wrinkled skin and aged appearance. He was really one of the most wretched looking children I ever saw. To-day, after six weeks' treatment, the boy is entirely well as far as one could judge by inspection.

Another patient is rejoicing over his improved condition. He has suffered extremely for four years from "Eczema Scroti," and has drifted about amongst our confreres as such cases are apt to do. He was put on the "Succus Alterans," with a modified Ung. Sapon. Alkalin, locally, and was entirely free from his symptons in ten weeks to a day. (Treatment commenced January 5, 1885; reported himself well on March 9th.)

I am glad to report these cases, as I feel it is the least one could do when so valuable a remedy is still not at all well known.

Yours truly,

NELSON B. SIZER, B. S., M. D.

A CASE OF SYPHILIS OF FIVE YEARS' STANDING CURED IN FOUR MONTHS

250 W. 43D ST., NEW YORK CITY, JUNE 1, 1885.

GEO. W. MCDADE, M. D.:

DEAR SIR—After giving your "Succus Alterans" an impartial trial, both in private and dispensary practice, I consider it my duty to inform you that in the treatment of syphilis the results have been more than satisfactory.

Numerous cases have been entirely cured and others greatly benefited, while two cases of *persistent scrofula*, which resisted the usual treatment, commenced to improve from the first dose of "Succus."

Of the several cases of syphilis successfully treated with your remedy I will briefly mention the following:

Mr. P. W., aged 31 years; disease contracted May 5, 1880; had been treated by several physicians, who pronounced the case incurable. Had extensive ulceration on leg, mucous patches on tongue, a *very large gumma on the forehead*, and two of his fingers had begun to manifest symptoms of syphilitic dactylitis. Patient was extremely emaciated, and, owing to the condition of his stomach, I was obliged to commence with very small doses of the "Succus," which was gradually increased to a tablespoonful three times a day. *After taking the remedy for four months every trace of his trouble disappeared*, and he is, in my opinion, well, although, as a matter of precaution, he is still taking, and will continue to take, the medicine for two or three months longer.

This is but one of several cases of syphilis in my practice in which the "Succus Alterans" (McDade) has accomplished wonders after the usual mixed treatment had failed, and I am thoroughly convinced it has no equal.

Very respectfully yours,

D. D. STEVENS, M. D.

A CASE OF CANCER MUCH BENEFITED—TREATMENT CONTINUED.

NEW YORK SKIN AND CANCER HOSPITAL, No. 243 EAST 34TH STREET,
NEW YORK, JULY 6, 1885.

DR. McDADE,
Montgomery, Ala.:

DEAR DOCTOR—The patient, Arden Haight, of whom you make inquiry, and who has suffered for fifteen years from a nasal and orbital epithelioma, left the New York Skin and Cancer Hospital for his home, Sing Sing, N. Y., on July 1, 1885, much benefited.

He was admitted to the hospital on the 31st day of December, 1884, since which time he has been constantly subjected to surgical treatment, such as curetting and the application of Marsden's paste, etc. He has taken one pound of your "Succus Alterans," upon which Dr. George H. Fox proposes to keep him until it is given the full benefit. There will be no further operating until a sufficient quantity is taken to justify a definite conclusion.

Yours very truly,
B. MERRILL RICKETTS, M. D.
House Surgeon.

[NOTE.—Dr. Rickets writes under date of July 25th, saying:

"Arden Haight visited the hospital July 21st, feeling quite well and much encouraged, having taken one pint of 'Succus Alterans.' I supplied him with four pints more, with directions to take four tablespoonfulls daily. I am anxious to see the result, etc."

My present knowledge of the actual value of "Succus Alterans" in cancer, from observation of a number of cases now under treatment both in hospital and private practice, amounts to this:

That it acts as a powerful tonic; the appetite improves, emaciation, almost always present in such cases, is overcome, the patient rapidly increases in flesh, the bowels and kidneys act regularly, the healing process is hastened, and altogether the treatment is a most valuable auxiliary to surgical operations and local applications.

It is in this direction it is being used in the New York Skin and Cancer Hospital, 243 East Thirty-Fourth street, New York, the first institution of the kind in America; also, at the Home of the Incurables, Fordam, N. Y., and by a number of medical men in private practice.—ED. MONOGRAPHIA S.]

REPORT OF GENERAL USE IN CHARITY HOSPITAL, BLACKWELL'S ISLAND, NEW YORK.

OFFICE OF DR. L. L. SEAMAN,
Chief of Staff Charity and Maternity Hospitals.
DEPARTMENT OF PUBLIC CHARITIES AND CORRECTION,
CHARITY HOSPITAL, BLACKWELL'S ISLAND, NEW YORK, JULY 9, 1885.

DR. GEO. W. McDADE,
Montgomery, Ala.:

DEAR SIR—I have just received three dozen "Succus Alterans" (McDade) for use in this institution. Over half a gross of pint bottles have already been prescribed in our venereal wards, with results that fully justify further trial.

Respectfully,
L. L. SEAMAN, M. D., L. L. B.,
Chief of Staff.

A CASE OF TERTIARY SYPHILIS—CONFIRMATORY REPORT.

*Letter from Waldron B. Vanderpoel, M. D., Attending Surgeon Randall's Island Hospitals and Demilt Dispensary, N. Y.; late House Surgeon to Bellevue Hospital, etc.**

106 East 24th St., New York, June 15, 1885.

Dr. McDade:

Dear Sir—I have continued the general use of the "Succus Alterans" since my last communication, on December 2, 1884, and can express the same satisfaction as to results. One case of tertiary syphilis of thirty years standing, where the throat symptoms predominated, has been markedly relieved in four weeks. The symptoms of burning and dryness in the fauces were decidedly aggravated at first and it required considerable persuasion to induce the patient to continue the remedy.

Yours truly,

Waldron B. Vanderpoel.

CONFIRMATION OF FORMER REPORTS.†

Letter from Dr. J. C. De Varona, ex-House Surgeon to Bellevue and Charity Hospitals.

New York, June 25, 1885.

Dr. McDade:

Dear Sir—It affords me great pleasure to inform you that since my last report to you of several cases successfully treated by the "Succus Alterans," I have employed the same preparation in several new cases of syphilis with most satisfactory results.

Yours respectfully,

J. C. De Varona, M. D.

AN EXCELLENT TONIC IN GENERAL DEBILITY.

Letter from Constantine F. McGuire, M. D., late House Surgeon to Kings County Hospital; Visiting Physician to Southern Dispensary and Hospital, etc., etc.

497 Clinton St., Brooklyn, N. Y., June 3, 1885.

Geo. W. McDade, M. D.,
Montgomery, Ala.

Dear Doctor—I respond with pleasure to your inquiry. I have used Succus Alterans (McDade) in quite a number of cases in my dispensary practice, but failed to get reliable histories.

I met one case, however, in private practice that may be of interest. A young man consulted me in regard to a suspicious connection, but as he did not present any positive symptoms except general debility, I was not sure of my diagnosis. However, I put him on Succus Alterans, and told him to renew the bottle if he found himself improving. He returned at the end of two months, saying he had followed my direction, and that he was enjoying excellent health, *having gained twenty pounds* since I last saw him. It proved an excellent tonic at least in this case.

Yours truly,

Constantine F. McGuire, M. D.

---

*Dr. Vanderpoel reported cure of twelve case of syphilis in Monographia Syph., January, 1885, page 8.

†See report of successful use of "Succus Alterans" (McDade) in more than fifty cases. Monographia Syph., January, 1885, p. 7.

A CASE OF SECONDARY SYPHILIS.

CHATHAM, MASS., JULY 17, 1885.

MESSRS. ELI LILLY & CO.,
Indianapolis, Ind.:

GENTLEMEN—Some time ago I received one of your "Monographias" describing the virtues of "Succus Alterans" (McDade).

I thought it told too much until I saw it indorsed by the name of Prof. J. MARION SIMS, and having such confidence in him that I could not think he would so highly indorse your preparation unless it truly possessed merit, I decided to try it at the first opportunity.

One soon presented itself in the case of a young man aged about 27, a steamboat employe, who had had syphilis over two years, and had been treated during the most of that time in both New York and Savannah, taking pounds of the iodides, but with no avail. He was suffering from nodes on tibiæ, enlarged right radius, a large syphiloderm on side, larger than my hand, a sore with hardened base at each angle of the mouth, and his system generally debilitated so he was not able to continue to perform his duty.

I put him on the "Succus Alterans" McDade. In six weeks the nodes had disappeared almost completely, the hard bases of the oral lesions had fully softened and were rapidly becoming reduced in size, the sore on the side had softened and shown signs of soon healing, and his general condition was so much improved that he left to resume his place on the steamer and continue treatment.

In future I shall feel easy when a case of syphilis presents itself to me, for I am certain that the treatment with iodides, etc., in such a case as this would be time thrown away.

Hoping you will meet with the success you deserve, and that you will always keep the article up to the standard, I remain,

Yours very truly,
C. J. RICKER, M. D.

EXCELLENT RESULTS IN SECONDARY SYPHILIS.

Letter from Henry L. Cochran, Adjunct Surgeon Long Island College Hospital; Surgeon Long Island College Hospital Dispensary; Member of Kings County Medical Society; Member of the Pathological Society, etc.

BROOKLYN, N. Y., FEBRUARY 28, 1885.

DR. GEO. W. McDADE,
Montgomery, Ala.:

I have tried your preparation known as "Succus Alterans" in a case of secondary syphilis with excellent result.

I am now using it in another case where the patient has been on the mixed treatment for some time without improvement, and although he has been taking "Succus Alterans" but two weeks, there is great improvement and a promise of cure.

Yours respectfully,
HENRY L. COCHRAN, M. D.

ONLY THE GENUINE SUCCEEDS.

"Succus Alterans" (McDade), prepared by Messrs. Eli Lilly & Co., Indianapolis, Ind., is reported by numerous physicians of this city and Brooklyn to have given very satisfactory results as an anti-syphilitic, both in hospital and private practice. In our issue of January 3, an exchange (published in Detroit, Mich.) was credited with a statement that "McDade's formula for the relief of syphilis had fallen into disrepute from its failure to cure the disease." The original preparation is prepared from the green drugs, while the name "McDade" has been attached to imitations prepared from the dry roots. As "Succus Alterans" received the indorsement of the late Dr. J. Marion Sims, and is now meeting with favor with the medical profession, it may naturally be inferred that the preparation reported adversely upon was not the original article.—*N. Y. Weekly Drug News, February 14, 1886.*

CURE OF FIVE CASES OF SYPHILIS.

CHEYENNE, WYOMING, AUGUST 1, 1885.

MESSRS. ELI LILLY & CO.:

I have been using the "Succus Alterans" (McDade), manufactured by your firm, for about fourteen months and have kept a record of the cases treated. In five cases of syphilis of more than three years' standing, two were suffering from mucous sores of the mouth and throat, one was a severe case with brain lesions, and the other two had gummy tumors, with loss of hair and emaciation.

I have treated the five cases about the same length of time, eleven months, and I have never seen a remedy affect so much in so short a time, as in these cases, which I consider practically cured.

I have treated twenty-seven cases of syphilis with the Succus, not exclusively in every case, but attribute the best results to the Succus Alterans.

Yours, etc.,

W. W. CROOK, M. D.

CURE OF TERTIARY SYPHILIS.

STANTON, MICH., JULY 27, 1885.

MESSRS. ELI LILLY & CO., INDIANAPOLIS, IND.:

GENTLEMEN—The valuable agent "Succus Alterans (McDade)" I have prescribed in a case of syphilis which had been under treatment for three years. It had been kept somewhat under control by several physicians at Detroit, Michigan, and one in New York; but, notwithstanding all treatment, the disease was steadily undermining the patient's health, it being tertiary; gummata on back and legs. He was under my treatment with Succus Alterans for four months, when he appeared well. I gave him enough to last one month longer. Two months later I saw him, and he told me he was as well as any man ever was. That was last October. I saw him again last week and he is still all right, therefore, I believe he has received a permanent cure.

I have treated several since. All appeared to get well, but as they were men who worked in the lumber camps, soon left and I lost track of them.

I am glad to add this report to the knowledge we already have of this medicine, which I know has no equal in the treatment of syphilis.

Respectfully,

J. B. SULLIVAN, M. D.

CRYPTA SYPHILITICA.

"GENUS CRYPTA—MINUTE TRANSPARENT, HIGHLY REFRACTIVE FILAMENTS THAT DEVELOP FROM SPORES."

Species. Crypta Syphilitica. (S)*

[For the Monographia Syphilitica.]

Filament homogeneous; structure uniform; no trace of transverse marking save in young specimens. Contents undistinguishable from the outside walls of filament, which is coiled, straight or arranged in curves, and occurs in short sections and in skeins; extremities obtusely rounded. Highly refractive and of a copper color when a little out of focus.

Develop from spores which are automobile with active protoplasmic motions, and usually travel rapidly about large spaces in the field of microscope. They can be transferred by inoculation, by contact of mucous membranes, by sweating, osculation, etc.

The connective tissues furnish a fertile soil for their development and propagation. When the spores are planted on a mucous membrane, they put forth filaments that penetrate the membrane instead of extending laterally in the epithelia, which are destroyed wherever the plants penetrate.

Next the plants invade the periosteal and perichondreal membranes.

Next they invade the bony and cartilaginous tissues.

The blood becomes invaded on the penetration of the mucous membranes. The first invasion of the mucous membranes represents *the primary stage of syphilis.*

The lesions of the lymphatic glands and connective tissues represent the invasion of the plants into the system, and form *the secondary stage.*

Blotches, mucous patches, condylomata, tumors and nodes are excited by the active growth of crypta syphilitica causing a too active growth of the gelatinous tissues. Analogues of this are seen in the nodes of plum trees suffering with blight, which are due to a parasitic vegetation.

When the plants invade the bones and cartilages, the *tertiary stage* is formed.

Sometimes the plants live in the system in a latent condition for years, ready to be brought out by any cause that depraves the nutrition.

The *crypta syphilitica* occurs in two stages of development: *First*—That of spores, microspores or bacteria, which usually have very active movements over the whole field of the microscope. *Second—In the form of a filament which is the mature development of the plant.*

The first may be termed the

BABYHOOD STAGE.

It is very interesting to understand here, that the crypta syphilitica propagates in this stage. This is not an unusual thing in cryptogams. The common vinegar yeast propagates in this babyhood stage in sour wine, cider, bread, krout. The vinegar plant simply multiplies by division with extreme rapidity in countless numbers, and it will keep multiplying in this stage, if the conditions necessary are preserved.

Most writers of late regard this stage as one of ultimate life, and call them bacteria.

In our opinion, this is a mistake, for it ignores the development of the same spores under favorable circumstances into the

SECOND STAGE OF DEVELOPMENT, TO WIT, THAT OF THE MYCELIAL FILAMENT.

The full fructification of the mycelia of the crypta syphilitica has not yet been discovered. It is supposed to be analogous to that of the vinegar plant aforesaid, which ruptures when fully developed, and sends forth the microspores of the vinegar plant in the babyhood stage, from its ends, sides and protuberances.

---

*See American Journal of Medical Sciences, April, 1867. Also, Zeitschrift für Parasitenkunde, 1873.

The mycelial filaments are not so common as the spores, and for the purpose of identification of the plant are not necessary. While the spores are readily found the filaments are not.

Figure one shows such filaments. One is broken off, but it has the curves, the terminal enlargements, and under the microscope, when turned a little off the focus, a copper color.

WHERE TO FIND THE MYCELIA IN ABUNDANCE.

The beds of old chancres are the best places to find them. The beds may be dissected off, and the mycelial filaments teased out, or an eschar may be made with acid nitrate of mercury, which separates in a few hours, and the filaments may be teased out with manipulatory needles.

ORIGINAL SOURCE.

The discoverer thinks it has come from some animal to man, but there is nothing positive as yet.

PRESENCE IN THE BLOOD.

For the practical physician the detection of the crypta syphilitica in the blood is of most importance, as it settles the fact of invasion of the system, and its removal is a direct object to be aimed for both by patient and physician.

A positively recognized cause of disease, is much better for those concerned than an indefinite opinion that can not be seen, measured, photographed or proved to exist. When medicine is based on exactness, it has a fascination like surgery. There is a directness of aim, and an encouragement to work for positive results, which inspires enthusiasm, and carries a patient to health through obstacles otherwise insurmountable. For example, take scrofula, the name carries weight, but when it is classed among the chronic forms of syphilis or consumption, with a definite morphology of the blood to be observed, followed up and removed, it then impresses one with treble the force. The value of tangible over the intangible is that of facts over opinions without facts.

ADVANTAGES OF A RECOGNITION IN THE BLOOD OF THE CRYPTA SYPHILITICA.

First. It is a definite physical sign of inspection to regulate the need and duration of the time of treatment. No case can be called cured if the plant remains behind.

Second. Without asking a question or depending on subjective evidence, the physician can detect syphilis with an ease, which is a great advantage every way.

Third. There is no need of a prevalence of the tertiary forms of the disease, because of imperfect cures and incomplete diagnosis.

Fourth. Crypta syphilitica explains the mode of infection from impure contact, because by the act the spores or seeds, so to speak, are sown by the touch of the old habitat on the new soil.

Fifth. As crypta syphilitica is found latent where least expected, and is at the bottom of many cases of chronic disease, its recognition in this simple way is important and valuable to a physician.

Sixth Vigor, enthusiam and persistency in the use of means to cure by removal, are encouraged on the part of all concerned by the physical demonstration of the crypta syphilitica as a parasite in the blood and tissues of man.

HEREDITY.

When the crypta syphilitica has invaded the blood, the disease called syphilis becomes constitutional, and may be transmitted in the second and third stages *without producing the primary stage.*

There have been cases where a syphilitic father with no outward sign of syphilis, yet after marriage has transmitted it to wife and children. In many cases of this kind the vegetation produced no visible impression on the systems to which it has been transferred. In others it produces more or less marked constitutional disturbances, but the diagnosis is at once made out by a physical exploration of the blood morphologically.

The propagation in heredity is probably by means of the placenta. The spores penetrate through the epithelia of the villi into the fœtal circulation of the blood.

The writer regards it possible thus to transmit the plant to a child from any one member of four preceding generations, making sixty persons in all.

Under favorable circumstances the vegetation lessens and disappears, removed by the powers of nature—"vis medicatrix naturæ."

The spores are the last to go, and there is no real cure before they are removed from the system.

TREATMENT.

As this paper does not aim to go into the subject of treatment, I say, in passing, that I have found the use of Succus Alterans (McDade) to remove the spores of the crypta syphilitica satisfactorily.

PROPAGATION BY VACCINATION.

The production of syphilis by vaccination is perfectly explained by the crypta syphilitica. The spores may be planted in the skin with the spores of the vegetation that produces kine pox.

This is especially the case when the vaccine virus is mingled with the blood of a syphilitic individual whence the vaccine virus has been taken, and may be regarded as evidence in favor of bovine vaccine, though in passing it may be said, kine have diseases enough to render a selection of animals for propagating virus imperative. It certainly would be a good plan for those who cultivate animal virus to study the morphology of the blood of the kine they use.

These remarks are based on an experience of nearly one thousand kine vaccinated by the writer.

DEMONSTRATION OF THE CRYPTA SYPHILITICA.

First. By direct observation with the micsroscope. Everything depends on the proper method. The aim is to obtain the blood almost exactly as it is in the vascular system. This requires expedition and cleanliness.

1. Things to be had: (*a.*)—The patient. (*b.*)—A lancet or scarificator. (*c.*)—A clean glass slide or a covered glass. (*d.*)—A positive, good $\frac{1}{5}$, $\frac{1}{10}$ or $\frac{1}{15}$ inch objective and two-inch eye-piece. (*e.*)—A good illuminator; Perkins & House Safety Lamp is the best I know of.

2. Things to avoid: (*a.*)—Foreign substances, as dirt, etc., from the skin. (*b.*)—Too much blood. (*c.*)—Too little. The drop of blood should completely fill the space between the cover and slide, and no more.

3. Place of selection for the purpose of drawing blood: forearm, above the wrist.

4. Time, patience, practice, expedition, careful observation is necessary.

5. The observer should first learn how to distinguish white corpuscles from the red, and should study the forms and peculiarities of vegetations that are found on the body and about the body.

6. A year of careful investigation will do more towards understanding this matter than any amount of writing or theorizing; that is, taking known syphilitics and examining their blood and chancres.

The observer must not expect too much at first, but wait impassively and let the object impress itself quietly. Don't be disappointed if it is not seen the first time. The movements of the spores are so active and saltatory that they escape observation often, but after recognition the wonder is they were not detected before, but if the observer fails, a second method can be tried, to wit:

Second. Projection by solar microscope on screen. Things needed: (1), a da ened room with perforated closed window; (2), a clear sunlight day, with, (3) a heliostat mirror or a (4), common mirror one foot square; (5), a condenser from a common photograph camera; (6), a board or plank with a support to keep it in position; (7), a clean sheet or white-washed wall, fifteen or twenty feet off from the shuttered window; (8), the microscope and specimen in demonstration 1.

To operate: Having 2, 1 is obtained; 6 is put in a line with 3 or 4, arranged outside so as to throw a beam of sunlight into 1; 5 is placed on 6 so as to receive the beam; 8 is then placed so as to be in the axis of 5. It is better to have 5 as large as can be procured, and then 8 can be placed so as to bring the object an half inch beyond the heat forces of the condensed beam, so as to avoid heating of the specimen or objective. The eye-piece is to be removed from 8, and if 3, 5 and 8 are in line, an image of the field will be thrown on 7. If the image has diffraction rings, then the tube of 8 is not darkened enough to absorb side rays. This may be done by lining it with black velvet; 8 is then to be focused on 7. If the blood is syphilitic and contains the spores, they will be projected on 7, so as to be pointed out by their saltatory movements. The lower the power of the objective the farther off the screen must be.

The common objectives of the solar microscope are not satisfactory in my experience; indeed, I have found the very best objectives none too good for this work. This experience includes my one-seventy-fifth-inch objective of Tolles. The day should not be hazy in the least. A day after a long rain storm is the best for the solar projection.

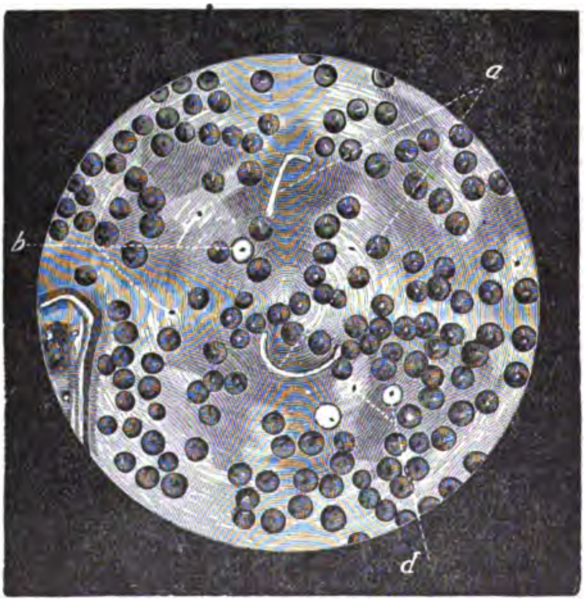


PLATE 1.

3. PHOTOGRAPHING THE CRYPTA SYPHILITICA.

For this purpose the apparatus described in two may be used, or the dark room and heliostat may be dispensed with.

It is quite evident that if the screen was a sensitive plate, a photograph could be taken on it. Practically a quarter size plate of the photographer is enough for the purpose, so a common camera, with its objective removed, is adapted to the tube of the microscope. The image is focused on the ground glass plate, and the sensitive plate exposed. The time of exposure varies with the chemicals, the light and the amount of condensation. Usually five seconds is ample time.

Plate 1 is taken from a photograph, which the writer took in this manner; it is a better reproduction than expected.

Two mycelia of crypta syphilitica are seen (*a*). Spores are seen in the serum interspaces, and in the enlarged white blood corpuscles (*b*, *d*).

The artist was obliged to exaggerate the size of the spores. Of course the motions can not be photographed.

4. LANTERN PROJECTION.

It is only necessary to have lantern slides from the microphotographs made, and thus the crypta syphilitica, has already been demonstrated in public and private by the writer.

EPHRAIM CUTTER, M. D.

NEW YORK, 213, West 34th Street, June, 1885.

DR. McDADE'S TREATMENT.

The usual dose of "Succus Alterans" (McDade) is a teaspoonful three times a day, gradually increased to tablespoonful doses, taken in water or syrup, either before or after eating. When it does not nauseate, I order it before meals; if it nauseates, it is best borne an hour after eating, taken in an equal quantity of simple syrup. Begin with the smaller doses and as the patient becomes accustomed to the effects of the medicine increase the dose to the larger. In most cases this can be done in four or five days. The large doses, if taken in the beginning, may produce nausea, vomiting, and act too freely on the bowels. If at any time the medicine should produce these effects, discontinue it for a day or two, then take a medium dose. If the bowels do not act, move them with some cathartic. It is seldom that it will be necessary to vary from the above doses. In one case I could not give it in larger doses than half a teaspoonful, and in one gave as much as three tablespoonfuls three times a day.

The "Succus Alterans" (McDade) stimulates the secretions throughout the entire system, acting directly upon the stomach, liver, kidneys, and the glandular system. The appetite and digestion are improved, there is an increased flow of saliva, gastric fluids, bile, urine, and perspiration. In some patients an itching is produced, in others an eruption on portions of the body or limbs; in a few, watery blisters in the palms of the hands and soles of the feet, which require no particular treatment. In case the itching becomes annoying, sponge the parts with a solution of bicarbonate of soda.

Secondary symptoms seldom follow the primary stage if "Succus Alterans" is promptly and persistently used on the very first appearance of the chancre. Secondary cases are usually discharged from treatment in from three to four months, and tertiary in from four to eight months. This is the rule; of course there are exceptions, owing to idiosyncrasies of the patient, amount of constitutional disturbance, condition of patient, and the length of time since contracting the disease. Some are cured in less time, while others require more. I have never had to extend the treatment into years. After all evidences of the disease are subdued, I recommend the patient, as a precautionary measure, to take the medicine every month or two for several months. No injurious effects are produced, even if it should be continued for years.

Patients who have been treated on the old plan usually improve rapidly after taking the "Succus Alterans," and soon recover from any bad effects the mixed treatment may have produced. I think "Succus Alterans" the best remedy for the cure of mercurialism and iodism.

The "Succus Alterans" sometimes produces temporary nausea; further gastric disturbance I have never witnessed. Almost invariably the appetite and digestion improve after taking the "Succus Alterans" (McDade). There is also abundant evidence of its value in anæmia, from either syphilitic or other causes.

I am convinced of its curative effects, eradicating the syphilitic spores from the blood.

Mercury and the iodides long continued often produce injurious effects upon the system, second only to the disease itself. As before stated, the "Succus Alterans" (McDade) can be taken for an indefinite time without injury. My mode of administration, as with any other remedy necessary to be continued for a length of time, is to occasionally discontinue it a few days, or a week, alternating with tonics or other medicines, as are indicated; each return gives renewed benefit.

GEO. W. McDADE, M. D.

"PERFECT LIQUID CATHARTIC."

ELIXIR PURGANS (LILLY).

EACH TEASPOONFUL REPRESENTS

Rhamnus Purshiana	**10 grains.**	**Iris Versicolor**	**4 grains.**
Euonymus Atropurpureus	**8 grains.**	**Hyoscyamus Niger**	**2 grains.**
Cassia Acutifolia (Purif.)	**10 grains.**	**Aromatics, etc.**	

This Elixir is undoubtedly the **most palatable, elegant and effective Liquid Cathartic ever produced.** It is used and preferred by very many prominent physicians. A study of the formula will show its admirable construction. Its action on the liver is mild but reliable. It produces no irritation, and, in a word, stimulates the entire intestinal tract to gentle and sustained action, without nausea or griping. It is unequaled in habitual constipation of women and children, or others of sedentary habits, and does away with the necessity of using pills, so repulsive to many.

USUAL ADULT DOSES.

As a Cathartic	**Two to four teaspoonfuls.**
As a Laxative	**One to two teaspoonfuls.**
As an Aperient	**One-half to one teaspoonful.**

IN PRESCRIBING, PLEASE BE CAREFUL TO WRITE

'ELIXIR PURGANS" (LILLY),

THAT OTHER PREPARATIONS MAY NOT BE SUBSTITUTED.

PRICE PER PINT BOTTLE, - - - ONE DOLLAR.

FOR SALE BY DRUGGISTS EVERYWHERE.

ELIXIR PURGANS (LILLY)

ENDORSED AT BELLEVUE.

Bellevue Hospital, New York City,
Bureau of Medical and Surgical Relief for
Out-Door Poor, July 8, 1885.

Eli Lilly & Co.:

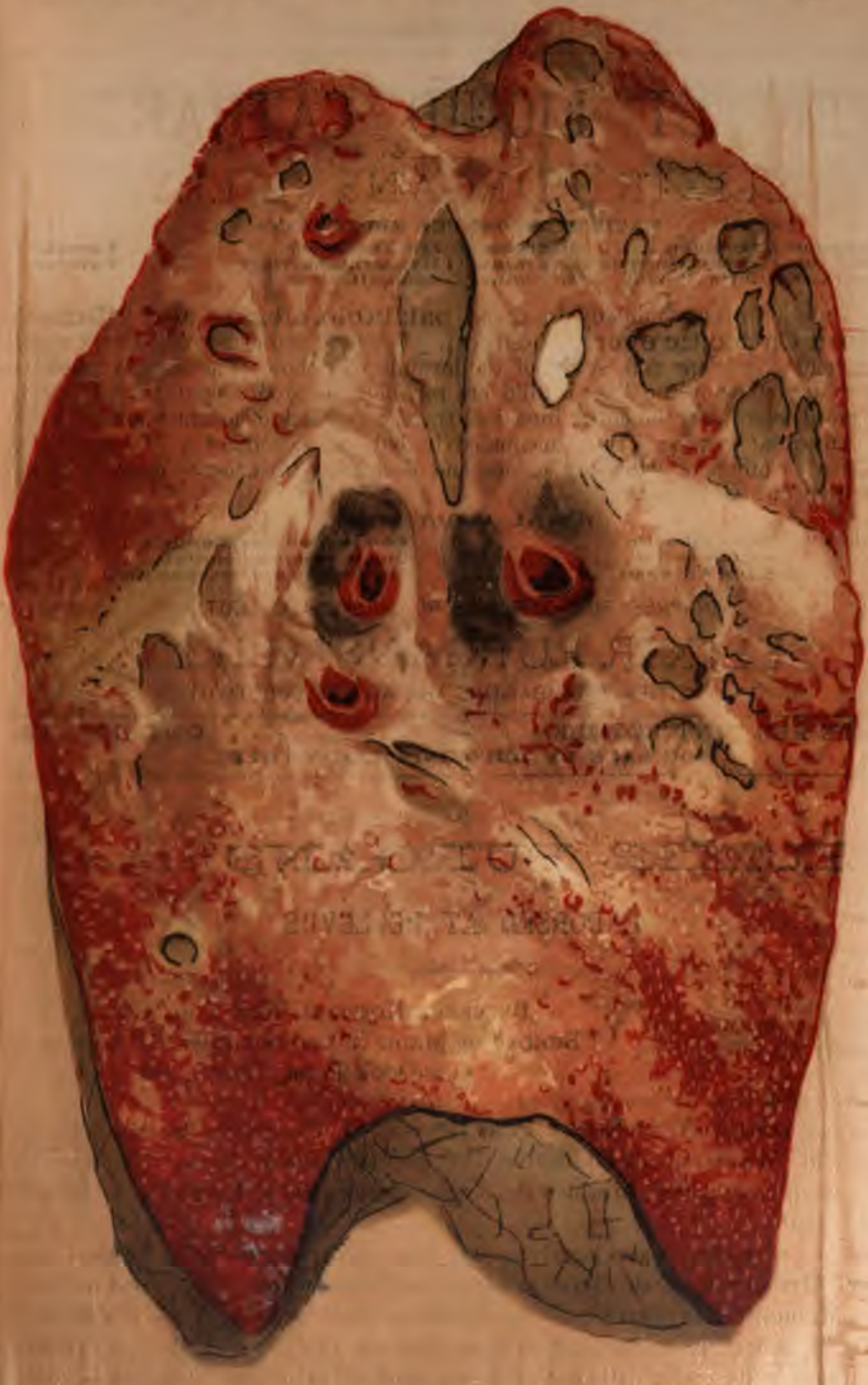
Gentlemen—Your Elixir Purgans is used with *great satisfaction* by Drs. Flinn and Waldo in the Digestive Department, where they have many cases of habitual constipation, in which the usual cathartics fail to have effect or become nauseating.

The preparation is also largely used in other departments, including the Children's Department, the Departments of Diseases of Women and of General Medicine. A number of the attending physicians *have given it a thorough trial* and find it an excellent and agreeable Purgative and Laxative in many cases where other cathartic medicines were either useless or distressing.

Yours very truly,

Henry Savage, Ph. G.,
Apothecary-in-Charge.

SYPHILITIC LESIONS OF THE LUNG.



SUPERIOR HALF SHOWING MANY CAVITIES AND GREAT INTERSTITIAL THICKENING. INFERIOR HALF SHOWING SYPHILITIC PNEUMONIA AND LARGE NUMBERS OF MILIARY GUMMATA. 2/3

PHTHISIS AND PNEUMONIA IN THEIR RELATION TO SYPHILIS.

A Study of One Hundred Cases in Which These Affections Were Associated.

BY WILLIAM H. PORTER, M. D.
Professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital; Curator of the Presbyterian Hospital, Etc.

Most of the clinical data used in the preparation of this paper has been taken from the records of one hundred unselected cases recorded in a case-book at the author's medical clinic at the New York Post-Graduate Medical School and Hospital, the pathological data from the post-mortem records of the Presbyterian Hospital.

Syphilitic pneumonia in children has long been recognized as a distinct and common lesion, but in adults it is either entirely ignored or given but a passing notice by the writers on clinical medicine.*

Latent syphilis, both of the acquired and congenital variety, as an ætiological factor in disease, has occupied the attention of the author for a number of years past, and he has collected much pathological material bearing not alone upon its influence upon the pulmonary tissue, but upon every organ and tissue of the body. Pulmonary syphilis is best defined as a condition of the lungs in which there is a progressive thickening of the walls of the vesicles; this change is often associated with inflammatory deposits, gummy formations, which degenerated into cheesy masses, become encapsulated or liquefy, and give rise to cavities. The first is best classified as syphilitic pneumonia, the second as syphilitic phthisis.

The primary origin can only be settled by accepting the terms syphilitic pneumonia and phthisis.

The first necropsy in connection with a typical clinical history was made in 1878, and in this instance there was no question of the existence of acquired syphilis, and the exemption from inherited phthisis was equally positive. The clinical history and the results of the autopsy evidenced a syphilitic instead of a tubercular origin for the pulmonary lesion, and since this time a number of similar instances have been noted.

The lungs removed from a diabetic subject† are interesting, as illustrating several important points:

1.—Pulmonary consolidation and softening, with the formation of cavities, may occur in diabetic patients independently of any tubercular phthisical process, which strongly suggests a similar development under other cirsumstances.

2.—Consolidation, softening, and the formation of cavities may occur without the formation of tubercles, as shown by the fact that no tubercle tissue, in the instance quoted, could be made out by the microscope, as well as by the fact of the absence of the bacillus tuberculosis, which corresponds to Koch's theory.

3.—Taken together with a number of other necropsies, this one establishes, from a pathological standpoint, the existence of a syphilitic lesion with the formation of cavities at the apex of the lung.

4.—It substantiates the clinical observation that syphilitic lesions of the lungs frequently commence and are most marked at the apex, and diminish from apex to base.

5.—Both lungs are involved, one usually more than the other. The base and anterior portions of the lungs are rarely involved at first.‡

Every day cases present themselves at the clinic which might be diagnosticated as an ordinary disease and passed by, but a careful investigation invariably

---

*Dictionary of Medicine, Quain. American Edition, New York, 1883, p. 900.
†New York Medical Journal, January 31, 1885, p. 139.
‡New York Medical Journal, April 11, 1885.

reveals a hidden syphilitic taint, which has evidently excited and has served to keep the disease in motion. This assertion may appear dogmatic, but careful investigation leads to but one result. If the rules for diagnosis to be laid down are found sufficiently strong to warrant an inflexible opinion, the main question is settled. From the histories of the first thousand cases treated at my clinic, one hundred, or ten per cent., were taken as the basis of this paper. Of the remaining nine hundred, many had pulmonary lesions and diseases of the various organs, which, in my opinion, were of syphilitic origin, and which, as a rule, responded to a certain line of treatment. This ten per cent. of all the cases is a large proportion; but if the pulmonary cases alone be taken, fifty per cent. or more would be traceable to the same cause. These facts are sufficient to attract attention, and to indicate how frequently syphilis may figure as a cause of disease.

Of the one hundred cases, fifty-two were males and forty-eight females; but, while these figures are true of this particular one hundred, they do not give the relative frequency among patients at large, for when the whole number treated was taken into consideration, it was found to be more frequent in females.

The youngest case recorded was sixteen years, the oldest sixty-six. The cases taken as a basis for this paper were arranged in ten decades, beginning at ten years, and it was found that six and twenty-two hundredths per cent. occurred in the first, eleven and thirty-three hundredths in the second, twelve and ten hundredths in the third, eleven and twenty-five hundredths in the fourth, seven and seventy-seven hundredths in the fifth, and three and sixty-eight hundredths in the sixth, which shows that its greatest frequency is between the ages of twenty and fifty, with a slight liability of the maximum occurring between thirty and forty.

The question of the disease being an acquired or an inherited vice is one of unquestionable importance. A careful study of this point for a number of years, has led the writer to believe that pulmonary syphilis in adults is a very common disease, and that it is due to either an acquired or inherited taint, the latter being nearly, if not quite, as frequent as the former. The ground for the belief that the disease is frequently inherited is shown by the number of cases in which it appears in young persons under ten or twenty years of age, whose chastity can not be doubted, and in whom no secondary symptoms have ever appeared. In opposition to this view may be urged a primary contagion, passing unnoticed, or a direct transmission by kissing some older infected person; these are outweighed, however, by the absence of primary and secondary symptoms.

Dr. John Ferguson, of Toronto, reported a number of cases* where the disease occurred in young children, and where, all other treatment having failed, the symptoms yielded to an anti-syphilitic *regime*, and where the father, at a later period, inquired if his children's condition could have been influenced by his having had syphilis.

This is proof positive of the transmission of syphilis during its latent period from a father to his offspring without the mother showing any signs of the disease. The latent period of syphilis, which lasts from ten to twenty years, during which there may or may not be exacerbations, succeeds to the active state and usually occupies that period of life in which the larger number of children are generated, thus probably accounting for the number of cases where positive symptoms are present without any evidence of primary contagion. A positive proof of the occurrence of this disease in the form of a pneumonia or phthisis may be found in the fact that these complications yield quickly and favorably to anti-syphilitic treatment. The larger percentage among females, especially among the unmarried and virtuous, seems to favor inheritance. These views are those of a clinician and pathologist, and vary considerably from those advanced by syphilologists. The clinical history of a case of this character is explained by the pathological lesion, and *vice versa*. Whether it be of the acquired or inherited variety may be in no doubt, but inheritance from the father's side is in keeping with the biblical prophecy of descent even to the third and fourth generations. The recognition of syphilis in causing and maintaining disease, especially when the pulmonary organs are the point of attack, would indicate that a large number were syphilitic and not tubercular in origin.[*]

---

*Phila. Med. News, January 17, 1885, p. 66.

In many instances cases have come to the clinic with the statement that some competent observer had diagnosed an incipient phthisis, accompanying it with an unfavorable prognosis. A careful interrogation has usually revealed a specific taint, however, and when the syphilitic pneumonia or phthisis had received anti-syphilitic treatment it resolved, so that to-day these patients would pass the most critical physical examination. Is there any direct relation between syphilis and tuberculosis? Decidedly not, although clinically and pathologically closely allied, therapeutically they differ decidedly.

The changes found in the lungs are somewhat similar to those of tubercular phthisis, and caused Niemeyer to remark:[†] "It may be difficult to decide whether the lesion be of a syphilitic origin or not." The lungs may be free, but, as a rule, they are more less bound to the chest-walls and diaphragm by newly formed connective tissues, so that the pleural space may be completely obliterated. The pleura itself may vary from one-eighth to one-half of an inch (three and one hundred and twenty-five thousandths millimetres to three and a half millimetres) in thickness. The greatest thickening is at the apices. After bisecting the lung the following changes are found: the main lobes, and often the lobules, are separated by distinct bands of newly formed fibrillated connective tissue, which is not the case in a normal lung. The bronchi, particularly the smaller ones, undergo the same change, while the bronchial glands are indurated and pigmented; the latter, however, is only a coincident lesion. There are numerous cheesy-looking masses which are recognized by a trained eye as gummy formations. Their cut surfaces have a sticky feel and a laminated capsule, which, when they have attained considerable size, is quite distinct. The smaller granules have a similar appearance, and often look as though they could be readily shelled out. These neoplasms may vary, both in size and shape, sometimes occurring as large as a hen's egg, and sometimes so small that they look like the miliary tubercle. They may occur in masses forming cheesy-looking patches, or they may occur in single round and isolated bodies. These masses are separated by degenerative pneumonia or by an interstitial thickening of the pulmonary substance. The early stage is characterized by a diffuse interstitial thickening of the pulmonary tissue, often associated with a degenerative pneumonia peculiar to this disease. In the latter stages cavities are not infrequent, and these are also found in the apex or high in the superior lobe.

The advanced cases are the ones that are usually found on the necropsy table, while the earlier types are not infrequently associated with inter-current diseases or surgical conditions; but here the histories are very incomplete, often being passed without attracting any attention. A striking illustration of this was found in the diabetic case already published, where, in looking for a tubercular process, a typical pulmonary syphilitic lesion was found. These pathological proofs of the apex—rather than the base, and anterior portion of the lung—being the point of invasion is contrary to the ideas of some previous writers, but it has been invariably so in all the cases examined by the writer, both in the post-mortem room and at the clinic. These facts also explain the physical signs which are so marked during life, and substantiates their truthfulness. Microscopically this lesson is differentiated from the tubercular by the peculiar cheesy and granular gummy formations which have a tendency to encapsulation, and look as though they could be readily shelled out and easily separated from the surrounding pulmonary tissue.

---

[*] This form of pulmonary lesion has been quite extensively described by—
Greenfield, W. S., on Visceral Syphilis, London Pathological Transactions, pp. 249, 208, London, 1877.
Goodhard, J. F., Phthisis of fibroid forms, History of Syphilis, opt. citat., p. 313.
Green, T. Henry, Syphilitic Diseases of the Lung, opt. citat., p. 331.
Pry, Smith, Tertiary Syphilis affecting lung, p. 334.
Mohamed, F. A., Two cases Syphilitic Disease of the Lung (early fibroid), opt. citat., p. 339.
Godhart, J. F., Syphilitic Disease of the Lung, London opt. citat., p. 31, London, 1874.
Frouenier, Gaz., hebd, de med., No. 48, 49, 51, Paris, 1875.
Thompson, E. Reginald, Pulmonary Syphilis, British Medical Journal, August 28, 1880.
This disease has been recognized and described from Morgagni's time to the present. A much more extended bibliography could be appended, but this is sufficient to show that the lesion is recognised by eminent pathologists.

[†] Niemeyer's "Text-book of Practical Medicine," New York, 1881, vol. ii, p. 771.

The microscopic appearances are varied and numerous, and the first thing that attracts the attention is the extensive new formation of connective tissue. In many places broad bands are found closely resembling tendon tissue, and intervening between these dense layers there is a universal thickening of the pulmonary tissue, which also involves the vesicular walls. The yellow elastic fibers are larger, and consequently appear more abundant. In many of the cases there is little or no pigmentation found which can be traceable to inorganic substances or to blood. The absence of the first, of course, is indicative of the fact that the interstitial thickening is not due to the irritation of carbon, iron, stone, or any of the other inorganic substances, as in the case of some varieties of fibroid induration. The absence of blood pigment, on the other hand, is positive proof that it is not due to chronic congestion or impeded blood flow. This also dispenses with the idea that the dyspnœa must be due to the stagnation of the blood.

The thickness of the vesicular walls varies from one twelve hundredth of an inch (20.833 m. m. m.) to one two hundredth (24.999 m. m. m.), but in the majority of the cases they are one eight hundredth to one six hundredth of an inch (31.250 m. m. m. to 41.666 m. m. m.) (See Fig. 1*a*.)

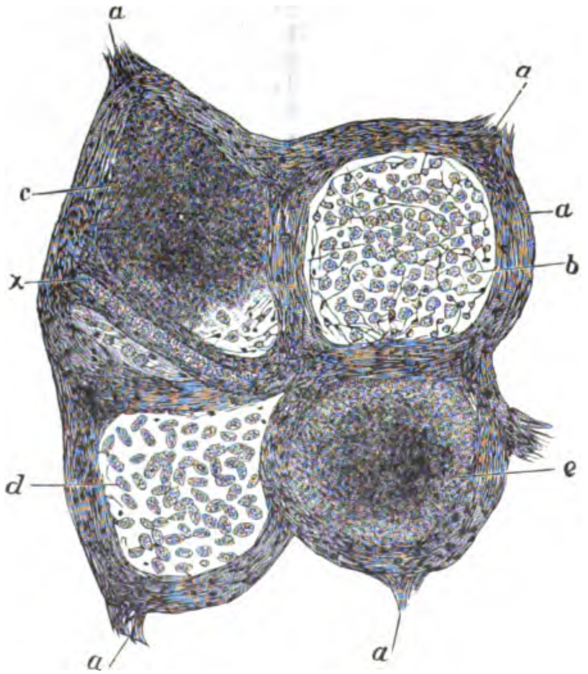


FIG. 1.—SYPHILITIC PNEUMONIA—*a*, Thickened vesicular wall. *b*, An air-space showing red hepatisation. *c*, An air-space showing gray hepatization. *d*, An air-space showing catarrhal desquamation of epithelial cells. *e*, An air-sspace showing the degenerative pneumonia of syphilis. *x*, A blood-vessel between two thick bands of fibrillated vesicular wall.

In a number of instances the capillaries were seen in the center of these thickened bands (Fig. 1 x), the walls of which were thickened independently of the vesicular tissue. When the vessels were distended with blood, as in Fig. 1 (x), the thickness of the tissue intervening between the lumen of the blood capillary and the wall of the air-sac could be measured, and was found to be from one twelve hundredth to one four hundredth of an inch (20.833 to 62.500 m. m. m.)

This would naturally impede the free and easy interchange of gasses between the two cavities, and would explain why the dyspnœa in the disease was so profound.

In addition, the connective tissue presents four characteristics microscopically.

1.—Dense bands of white fibrous tissue with few corpuscular elements.

2.—A less dense tissue studded with numerous small, round inflammatory corpuscles, having an average diameter of one one thousandth of an inch (24.016 m. m. m.) Fig. 2.

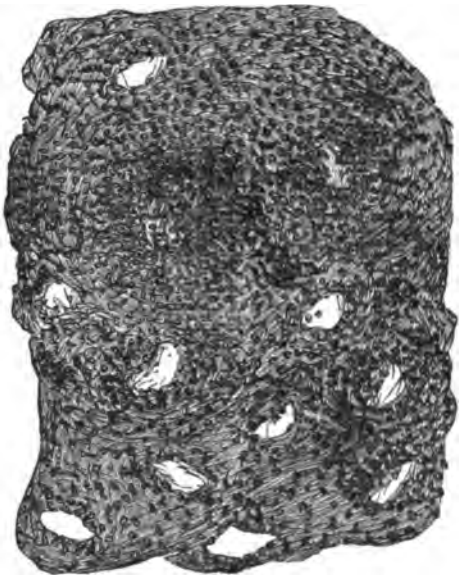


FIG. 2.—Showing outer portion of a gumma outer cell infiltration; the open spaces representing spots of softening.

At other points this same connective tissue was thickly set with oat-shaped corpuscles one thirteen hundredth of an inch (19.230 m. m. m.) long and one eight thousandth of an inch (3.002 m. m. m.) broad.

3.—The same inflammatory basement substance, interspersed with round nucleated corpuscles, one forty-five hundredth of an inch (5.347 m. m. m.) in diameter, which, taken alone, looked not unlike a round-cell sarcoma.

4.—The thickened bands had a granular and degenerated appearance.

In many of the ultimate bronchi there was marked fibroid thickening, and many of the vesicular spaces were filled with an inflammatory exudation which presented a variety of appearances.

1.—The air-spaces were filled with red-blood disks, leucocytes, desquamated epithelium, and fibrillated fibrin identical with that found in the second stage of lobar pneumonia. (Fig. 1 *b.*)

2.—Others are filled with decolorized round cells, as in gray hepatization of lobar pneumonia. (Fig. 1 *c.*)

3.—Others are filled with large, round, distinctly nucleated epithelium cells, with a diameter varying from one fifteen hundredth to one two thousandth of an an inch. (Fig. 1 *d.*)

4.—Others contained a granular degenerating material which would not stain. (Fig. 1 *e*.)

The marked feature of this change was that all four conditions were irregularly intermingled as though in each air-sac it ran its course independently of all the rest, going regularly through the red and gray hepatization; at this point degeneration, rather than resolution, set in. The thickened walls prevent absorption, and the degenerating inflammatory products probably account for the copious expectoration.

This process is best classed as a degenerative pneumonia and one peculiar to syphilis. This peculiar pneumonia, associated as it is with diminished elasticity, and with dilatation of the bronchial tubes and loss of resilience on the part of the lungs, explains the absence of both dry and moist râles. The dilated and moist condition of the bronchi account for the absence of sibilant or sonorous sounds which are so common in the ordinary forms of interstitial pneumonia. This same condition of affairs accounts for the absence of the crepitant and subcrepitant râles, because the walls of the bronchi are not able to approximate each other and cause the sounds.

My opinion has always been that these râles were due to the opening and shutting of the ultimate bronchi, and a careful study of the physical signs and of a number of sections has still further convinced me that this is the way in which these sounds are produced. But I do not care to say that this is the only way in which they are produced, as they are often heard in certain stages of pleuritic inflammations, and there is no point of diagnosis between the two that is practical. The pleuritic râle, however, is very much less frequent.

It is well known that there is no tidal motion to the air beyond the third division of the bronchi. Beyond this point the air is changed by diffusion and by an anatomico-physiological law.

The trachea and bronchi are lined throughout with columnar ciliated ephithelium, and the current of motion produced by these cilia is from within outward at the periphery of the lumen, while the central column of air is constantly moving downwards.

It is by this action of the epithelium that the major part, if not the whole, of all inflammatory exudations into the air-sacs and smaller bronchi, is brought up to the larger bronchi, where they can be influenced by the tidal air. The mass of sputum is pushed up until it reaches the under surface of the true vocal cords, where it irritates the peripheral sensory filaments of the superior laryngeal nerve, through which it is reflected back to the cough center, when a deep inspiration and a spasmodic or complete closure of the chink of the glottis follows. This is, in turn, followed by a forced inspiration with the glottis closed, during which the glottis opens, allowing a sudden escape of a large quantity of air under a very high pressure. The result of this is that the mass of sputum is driven through the rima glottidis into the larynx, mouth, or outside world, according to the force of the inspiratory act. This constitutes what is known as coughing, and is simply a dislodgment of the contents of the superior portion of the trachea. Irritation of the peripheral fibres of the pneumogastric in the pleura or bronchi will produce a dry or hacking cough. A thorough appreciation of these anatomico-physiological laws and their application to pathological conditions is absolutely essential for the selection of proper therapeutic agents.

Professor Thomas E. Satterthwaite first called my attention to the true value of the ciliated epithelium.

The large gummata have a peculiar laminated, fibro-vascular, connective-tissue periphery which tends to encapsulate and isolate their granular centers. The surrounding pulmonary substance is the seat of a peculiar fibro and degenerative pneumonia. The capsules are highly vascular, the small vessels having thickened walls from hyaline transformation (Fig. 3, *d*).

The center often liquefies, the contents being discharged through a bronchus, leaving a smooth cavity in the pulmonary tissue. These cavities may contract and form a cicatricial "pock-mark," or they may remain stationary for months. On the other hand, they may ulcerate and extend, so that at the necropsy we would find smooth-walled cavities, together with larger ones with ragged walls, or sometimes with walls similar to those occurring with a tubercular phthisis.

Throughout lungs affected in this way small miliary bodies, closely resembling miliary tubercle, are abundant, but they are not opaque or transparent (Fig. 3). These bodies I have called miliary gumma. These gumma sometimes coalesce, but at first they are round and isolated. A close study of these, in comparison with miliary tubercle, shows that there is a vast difference between the two. The periphery of the gumma somewhat resembles the adenoid tissue of miliary tubercle, but a high power distinctly shows that their periphery is composed of concentrically arranged fibrillated connective tissue in which numerous blood-vessels ramify (Fig. 3, *b* and *c*). The walls of these vessels, owing to a hyaline transformation, are invariably thickened (Fig. 3, *d*). As a rule, no giant-cells are found in the gumma.

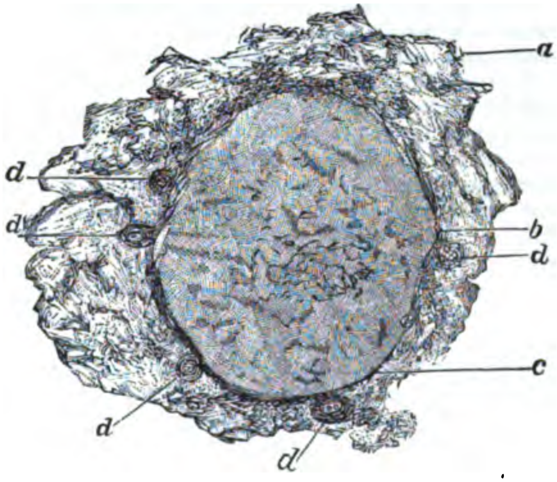


FIG. 3.

FIG. 3.—GUMMY TUBERCLE SHOWING CHEESY CENTER, FIBRILLATED CONNECTIVE-TISSUE CAPSULE, AND HYALINE THICKENING OF BLOOD-VESSELS. *a*, surrounding pulmonary tissue; *b*, cheesy center; *c*, sharply defined fibrillated connective-tissue capsule; *d*, thickened capillaries showing hyaline metamorphosis.

In miliary tubercle the adenoid tissue is more delicate and less perfectly fibrilated; it is full of small round cells, and often contains giant-cells; the capsules are less vascular and the blood-vessels do not present the hyaline transformation.

Taking the definition of Ziegler as the standard for miliary tubercle, i. e., "a non-vascular nodule (knötchen) which does not grow beyond a certain size, and which, having attained a certain stage of development, undergoes cheesy degeneration," gummy tubercles tend to become encapsulated, miliary to soften and diffuse. Such a striking analogy between these two forms of tubercles naturally suggests the following queries:

1.—Is not tuberculosis superinduced by syphilis?

2.—In the late stages of a syphilitic lung, may we not also have miliary tuberculosis?

3.—Have not gumma tubercles been frequently mistaken for miliary tubercles?

The first two must be answered in the negative on account of the absence of temperature and the Koch bacillus tuberculosis. There is, however, no good reason why tuberculosis should not be developed on a syphilitic lesion, but the writer has not found a single instance where the post-mortem has revealed this.

Before answering the next question definitely, more data is required to prevent confounding the two.

The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant muco-purulent expectoration. The sputum is either white and frothy or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. Early hemorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. Pleuritic pains are common, and there is often great weakness while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night. Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a nephritic lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

The physical signs are peculiar and diagnostic; the respiratory act is labored, and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

Percussion gives varying degrees of dullness, which is most marked at the apex, but diminishes toward the base. The percussion note is dull and of "wooden quality," and localized areas of dullness are found. Owing to the fact that small cavities have thin walls and contain considerable air, the dullness is not as great as would be expected, but, compared with a sound chest, it is decided.

Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged, especially the former, and harsh, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex. When the amphoric whisper is absent the presence of a cavity is eliminated. As a rule crepitant and subcrepitant râles are absent, thus eliminating chronic bronchitis. It is differentiated from asthma by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa*. There is no other disease in which this localized tenderness in œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis where the diagnosis was confirmed by the necropsy and its almost universal presence in cases of syphilis, it may be regarded as pathognomic of a specific taint. In addition to this it is always found to yield when the patient is under an anti-syphilitic *regime*.

The diagnosis is based upon five principal signs and symptoms:

1.—The abundant expectoration without any signs of softening of the pulmonary tissue.

2.—The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

3.—Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

4.—The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

5.—The ready response to treatment is another element in the diagnosis.

The prognosis depends upon the early recognition and treatment.

Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

* * * * * * * * * *

The conclusions may be summed up as follows:

1. *Ætiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maximum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

2. *Pathology.*—Is most frequent at the apex; usually involves both lungs; is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

3. *Symptoms.* These are peculiar and diagnostic.

4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness, and the absence of an increased bodily temperature.

5. *Prognosis.*—This depends upon an early recognition of the trouble.

6. *Treatment.*—Must be anti-syphilitic to be of any avail.

* * * * * * * * * *

In conclusion, thanks must be extended to Dr. George R. Elliot for his pains in examining the specimens for bacilli, to Dr. George G. Van Schaick for the drawings, and to Dr. E. B. Brunn, one of the laboratory students, for preparing the specimens and examining for the bacilli.

P. S.—In addition to the above, I would like to state that from October 1, 1884, up to May 15, 1885, I have made 42 necropsies. In 11 of the 42 cases, or 26.19 per cent. there was, in my opinion, a syphilitic condition of the lungs, either a gummata or cavities. Each case has been put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven have also been put to the double test for the bacilli of tuberculosis, and of syphilis, and in all, the syphilitic bacilli were found in abundance, but none of tuberculosis. One case of the 42, or 2.35 per cent. were diagnosticated as tuberculosis; the sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy.

NOTE:—EXPLANATION OF COLORED PLATE.

The accompanying colored plate was made from a specimen in the possession of the writer. The patient from whom the lung was removed contracted a chancre two years prior to his death, and one year later developed positive pulmonary symptoms.

The lung was bisected and photographed, and the latter colored from the original as the guide for the lithographer. The superior and inferior lobes were separated by a broad and dense band of fibrillated connective tissue. Above this band the pulmonary tissue had been principally destroyed and replaced by newly formed fibrous tissue, gummy masses and sharply defined cavities. Below the band of fibrous tissue the principal change was the characteristic syphylitic pneumonic consolidation and multitudes of miliary gummata which are represented in the plate by the numerous white spots. A few cavities are present. This specimen is one of the forty-two above mentioned. No. 102 East Thirty-first Street.

[Reprinted from the Bulletin of the Clinical Society of the New York Post-Graduate Medical School and Hospital of August, 1885, and the New York Medical Journal of July, 1885.]

(Re-print from the British Medical Journal.)

THE TREATMENT OF SYPHILIS.

BY J. MARION SIMS, M. D.

More than forty years ago I practiced medicine in Montgomery county, Alabama, near the Creek nation of Indians. Syphilis was then very prevalent among them, and their medicine-men had the reputation of speedily curing it. Their remedies were, of course, decoctions of native herbs. It was generally known that Queen's delight (*Stillingia sylvatica*) was one of their principal agents. I had supposed that, when this tribe were removed west of the Mississippi, in 1837, their secret of curing Syphilis had gone with them; but, when I was in Alabama last year, I learned from my brother-in-law, Dr. B. Rush Jones, of Montgomery, the following facts touching this question:

There were, he said, seven or eight years before our civil war, several obstinate cases of secondary Syphilis, in and around Montgomery, which resisted the usual remedies in the hands of our best physicians. They went the round of the doctors, and could not be cured. At last one of these was advised to consult a colored man, Lawson, belonging to Mr. N. D. Barnett, a cotton planter, residing in Montgomery county. In a state of despair, he went to see Lawson, put himself under his treatment, and in a few weeks he was perfectly cured. He returned to town rejoicing at his recovery, and soon others of his fellow-sufferers followed his example, went to consult the colored man, Lawson, and were likewise cured. These cures, by an obscure negro man, a slave, when the highest representatives of science had failed, were much spoken of in town and country, and attracted the attention of Dr. Geo. W. McDade, a very intelligent and accomplished physician, whom I have known since his early boyhood. Dr. McDade, feeling the greatest interest in the subject, went to see Lawson, who had made these marvelous cures, and obtained from him the formula he had been using so successfully.

Soon after this, Dr. McDade happened to meet Dr. James Freeny, who gave the following history of the so-called Indian method of treating Syphilis: Horace King, a mulatto slave, resided among the Creek Indians for some years before they were removed west of the Mississippi river (1837), and had learned from them their method of treating Syphilis. While Horace was engaged in building a bridge at Tallahassee, about twenty-five miles from Montgomery, in 1852, he heard that there were many cases of Syphilis on Mr. Gibson's plantation, near by, and that Drs. Freeny and Banks were the attending physicians; and he called on Dr. Freeny and told him that he had learned a method of treating Syphilis from the Creek Indians which was universally successful, and that he would like to show it to him; and for this purpose he proposed to take the worst case on the Gibson plantation for the experiment. Drs. Freeny and Banks selected a certain number of very bad cases, and turned them over to Horace, and they watched from day to day his method, while they continued their own plan with the other cases.

Horace's selected bad cases recovered more rapidly than Dr. Freeny's milder ones, and then Dr. Freeny adopted the Indian method in the other cases on the Gibson plantation, and has not pursued any other plan since.

After Horace's success on the plantation of Mr. Gibson, and the adoption of his method by the two well known physicians, Drs. Freeny and Banks, Mr. Nicholas D. Barnett, a large cotton-planter, sent his servant, Lawson, a very intelligent man (before alluded to), to Horace King, to learn his remedies and the method of preparing and using them. Horace readily imparted the desired information, and Lawson returned home and put the treatment to the test among the negroes on his master's plantation. It was as successful in the hands of Lawson as it had been in those of Horace King.

After awhile, other planters in Mr. Barnett's neighborhood followed his example, and set apart confidential servants to take charge of Syphilitic cases, and treat them with the Indian decoction. And thus several adjoining plantations had each its negro doctor, all using the same method with equal success.

This was in a rich section of Montgomery county, where there were many large cotton plantations in juxtaposition; some of one thousand acres, some of two thousand and more, having from one to two or three hundred slaves on each, while there were others of less size, with fewer slaves.

On some plantations—notably on Mr. Barnett's—the Syphilitic cases, male and female, were sent to a hospital specially set apart for the purpose, and there quarantined until they were cured. They were, during the period of treatment, wholly cut off from communication with other negroes on the plantation. This was in the time of slavery, when the intelligent and humane master had the right to protect his people from infectious diseases of all sorts. Syphilis was thus controlled, and small-pox effectually stamped out, because the sanitary state of the plantation was entrusted to medical men of the highest intelligence, who were authorized by the master to do all that was necessary for the health of the community.

Dr. McDade says: "It is very remarkable how few cases of secondary syphilis, scrofula and consumption, existed in those days among the slaves, compared with what we now find. The two latter were then almost unknown among the negroes, but since emancipation they are very common.

"Is secondary syphilis the parent of scrofula and consumption? Certainly these were rarely seen among the negroes while in slavery, whereas they are now encountered every day. Secondary syphilis was then less frequent among them than now, because their masters took every precaution for their early treatment and cure. But now the negro is free to contract this loathsome disease, and to scatter it as he may. You may ask, why are they not treated? I answer, many never apply for treatment; and when they do, they often disappear before they are cured. And many of them are too poor or too improvident to apply for treatment."

Professor Samuel D. Gross read an exhaustive paper on the connection between syphilis and scrofula and consumption before the American Medical Association, in 1875, advocating the view that the two latter were the offspring of syphilis, and it would now appear that the history of these in the negro, in slavery and in freedom, goes far to establish the correctness of the views so forcibly set forth by my distinguished countryman.

Dr. McDade says, "that the remedies used by Lawson, on Mr. Barnett's plantation, were the same as those used by Horace King. They consisted of ten or a dozen indigenous roots a handful of each, with a certain quantity of salt, alum, and iron slugs, put into three gallons of water, and boiled down to one gallon. Of this the patient took a half-pint three times a day. There was also a decoction of roots for washing the syphilitic sores. After obtaining these prescriptions, it was a long time before I made any trial of their virtue. I was deterred by the fact that it would be difficult for any patient to drink and retain half a pint, three times a day of such a vile decoction. The horrors of syphilis, could alone inspire a man with courage to take it. However, I saw that those who did were invariably relieved, whether in the first, second, or third stage of the disease.

"Instead of adopting the so-called Indian remedy as I found it, I began by eliminating the alum, salt, iron, nails, slugs, and all the roots and herbs that I knew must be absolutely inert. I selected the few among them known to possess medical properties, and instead of making a decoction, as had been done before, and which had to be made in large quantities every day or two, I had them prepared in the form of fluid extracts, which places the remedy on a scientific basis, and insures uniformity of action. The following is the formula that I and my medical friends have been using for many years:

"Fluid extract of smilax sarsaparilla, fluid extract of stillingia sylvatica (Queen's delight), fluid extract lappa minor (burdock), fluid extract of phytolacca decandra (pokeroot), *aa* two ounces; tincture of xanthoxylum carolinianum (prickly ash), one ounce. Take teaspoonful in water three times a day before meals, and gradually increase to tablespoonful doses.

"In making the fluid extracts, there is great risk of getting a remedy less efficient than the original Indian decoction, because the manufacturer may use roots that have been kept too long and lost some of their active principles, while the decoction used on the plantation *was always made of fresh roots just gathered from the woods.* In making the fluid extracts, we should, therefore, be careful to have them made from *roots recently gathered.*" While Dr. McDade makes fluid extracts of four of his ingredients, he make a tincture of the fifth. I do not understand why he did not order a fluid extract of that also. I simply give the prescription as it was given to me by Dr. McDade and Dr. Rush Jones.

Stillingia sylvatica has long been used in the Southern States as an anti-syphilitic remedy by both the profession and the laity. Professor Thomas Y. Simons, of Charleston, was the first to call our attention to it (*American Medical Recorder*, 1828). His favorable report was subsequently confirmed by Professor Henry R. Frost, of Charleston, and Dr. A. Lopez, of Mobile, Alabama (*New Orleans Med. and Surg. Journal*, 1846). Dr. Frost thinks the active principle of the stillingia is somewhat volatile, and says that the root loses much of its activity when kept long. I know that the odor of the recent root is much stronger than the dried. I presume stillingia sylvatica and smilax sarsaparilla are the efficient agents in McDade's compound fluid extract. Dr. McDade says:

"I could detail many cases illustrating the wonderful anti-syphilitic powers of this remedy, but I will give you only two: 1. A young negress contracted syphilis from her husband, who resided on a neighboring plantation, and visited his wife generally about twice a week. This was long before the war (1861). They were both treated by the late Dr. Alfred McDonald, and they were apparently cured. But they had several children subsequently, and in rapid succession, all of whom died of syphilis, soon after birth. The husband and wife were then treated by the Indian decoction, and were permanently cured, as shown by the fact that they had several healthy children afterward at full term, who grew to manhood and womanhood. None of them ever showed any signs of syphilis, nor have any of their children. Those of them who have died, died of other diseases, of a climatic character.

2. "A negro girl, twenty years old, belonging to Mr. Cobb, had syphilitic iritis. This case had resisted all treatment by the best physicians of the country. She was nearly blind.

She was taken in charge by Mr. Barnett's colored man, Lawson, who gave her the Indian remedy, and she was perfectly and permanently cured, as she never afterward showed any symptoms of the disease. These cases occurred more than twenty-five years ago, and have been under my observation ever since; so you will see that the cures are permanent.

"Mr. Barnett has pursued the same method on his plantation since emancipation that he did during slavery. His man Lawson uses the same compound decoction now that he did in olden times, and cures many cases every year on Mr. Barnett's plantation and on those adjoining."

Dr. McDade has used his compound as an alterative with great success in scrofula, and he thinks it would be worth trying in some forms of cancer.

Dr. Rush Jones, residing in the city of Montgomery, has a larger field of observation than Dr. McDade, residing in the country, and has really had a larger experience with McDade's anti-syphilitic fluid extract than any one else; and he speaks most favorably of it. He has been treating syphilis for more than forty years, and he says he now has but little dread of undertaking the worst cases, since he has adopted the use of McDade's formula. He repudiates mercury and the iodide of potassium entirely, and says they are unnecessary when McDade's formula is used.

Dr. Rush Jones says: "It is a remarkable fact that I do not see more than one case of syphilis in women to fifty cases in the male. I have inquired of a number of physicians in regard to this fact, and their experience coincides with mine. How can this be accounted for?"

I do not know if the fact alluded to by Dr. Rush Jones has been observed in other parts of the world. If so, it seems to me to have an important bearing on the practical application on the Contagious Disease Acts. And so would the complete history of the working of the quarantine and isolation of infected negroes on the several cotton plantations in Montgomery county, Alabama, during the time of slavery and since emancipation, if we could obtain minute and reliable reports on the subject.

If an apology were necessary for this communication, it is this:

I was at the meeting of the London Medical Society on November 26th last, and heard the discussion on the papers of Dr. Drysdale and Dr. Routh on Syphilis. From this it appears that we now differ as widely on the subject of its treatment as we did fifty years ago. And this gave me the idea of writing to Dr. Rush Jones and Dr. McDade for the facts, which I now lay before the profession.

I have known Dr. Rush Jones all my life, and I have known Dr. McDade, and Dr. Freeny, and Mr. Barnett, for more than forty years, and have perfect confidence in any statement they might make, or I never would have said a word on this subject. I think great credit is due Dr. Freeny and Dr. Banks for giving the colored man, Horace King, an opportunity to demonstrate the value of the Indian decoction in the treatment of syphilis on the plantation of Mr. Gibson. For its success there brought it, with their indorsement, prominently before the community, and extended its use to the plantation of Mr. Barnett and his neighbors.

Too much credit can not be given to Dr. McDade for investigating the subject, and giving us a formula at once scientific and efficient; for it has proven efficient in the hands of Dr. Rush Jones and Dr. McDade, and many other physicians, who have been using it for several years past.

I should be pleased to see the name of McDade used by the profession hereafter to designate the formula and the method of treatment herein set forth. The remedy will doubtless be extensively used; and I sincerely hope it may prove as efficient here as it has in the hands of my friends in Montgomery, Alabama.—*British Medical Journal, March* 10, 1883, *pp.* 448 *to* 450.

LETTERS FROM DR. J. MARION SIMS.

[The following letters from Dr. J. Marion Sims, written, as will be seen in referring to the dates, but a short time before his death, shows his great interest in the outcome of "The Treatment of Syphilis" by the McDade remedy, as announced in his London paper, which, according to the appendix to his autobiography, lately published, was the last paper written by him for the press:]

---

267 Madison Ave., New York, September 13, 1883.

Messrs. Eli Lilly & Co.:

I think you have done wisely to get Dr. McDade to furnish you with the fresh roots for the McDade Remedy.

There will always be danger of getting in the market extracts made from roots that have been kept too long, and have lost some of their virtues.

I send you a letter. just received, from Dr. Wm. S. Frost, of England. Please send what he needs for his two cases.

* * * * * * * * *

Yours truly, J. Marion Sims.

267 Madison Ave., New York, October 24, 1883.

My Dear Dr. McDade:

* * * * * *

I knew that the publication of your experience would create a wide-spread interest, but I had no idea that it would have made such a boom. If I had, I would have waited for you to make arrangements for supplying it to the profession.

You deserve all credit for working the thing out; you have all credit of it, and you ought to make something out of it.

With kind regards and best wishes, believe me,

Yours very truly,

J. Marion Sims.

Washington, D. C., October 29, 1883.

Eli Lilly & Co.,

Indianapolis, Ind.:

* * * * *

I am most anxious for my friend, Dr. McDade, to make all he can out of his remedy. He deserves it, and I hope may be amply remunerated.

You have shown a spirit of enterprise, and energy, and liberality that commands my sympathies.

* * * * *

I wish you all the success possible in this enterprise. I get letters almost daily about it, and I always answer them promptly.

Believe me, yours most truly,

J. Marion Sims.

THE ALTERATIVE "PAR EXCELLENCE."

Charlestown, West Va., March 24, 1885.

Messrs. Eli Lilly & Co.:

Dear Sirs—Your "Succus Alterans" is doing splendidly in my cases of scrofula and syphilis. It is the alterative *par excellence.*

Truly,

Frank Byington, M. D.

IMITATIONS FAIL.

North Uniontown, Ohio, March 6, 1885.

Messrs. Eli Lilly & Co.,

Indianapolis, Ind.:

Dear Sirs—Having several cases of syphilis under treatment, I some time since used your "Succus Alterans" (McDade) with the most happy results. Afterward I could not get it of our dealers as they got another preparation *said to be* as good as yours and cheaper, but I was greatly disappointed in its use. I now want to arrange to get my supply direct from you. Please inform me of the price by the half-dozen.

Respectfully yours,

S. McNully, M. D.

WHEN YOU ARE OBLIGED TO GIVE NAUSEOUS MEDICINES, IN LIQUID FORM, PRESCRIBE AS A VEHICLE

SYRUP YERBA SANTA

AROMATIC, (Lilly),

A PERFECT MASK FOR THE BITTERNESS OF QUININE.

The *Kansas City Medical Record*, August, 1884, says: "SYRUP YERBA SANTA, AROMATIC is the best preparation we have ever used to mask the taste of Quinine and other bitter medicines. We use the Syrup prepared by ELI LILLY & CO., in the proportion of two grains of Quinine to a drachm of the Syrup."

We offer this article with the assertion that it is the most perfect liquid vehicle for the administration of Quinia, Chinchonidia, etc., ever produced. It is an elegant, highly flavored preparation, and exceedingly agreeable to the taste.

One fluid ounce will *perfectly disguise* the bitter taste of twenty (20) grains Sulphate Quinia.

Full directions for using accompany each package.

Per Pint, ... 75 Cents.

Sent per express on receipt of price.

FLUID GOLDEN SEAL. (LILLY)

(FLUID EXTRACT GOLDEN SEAL, NON-ALCOHOLIC.) A CONCENTRATED PREPARATION OF HYDRASTIS CANADENSIS, WITHOUT ALCOHOL.

This preparation is being very extensively used by the profession with most satisfactory results.

The value of Hydrastis as a tonic and corrector of the mucous surfaces, is well established, and Fluid Golden Seal (Lilly) has proven a most excellent form in which to exhibit this remedy.

It is prepared by a process that renders the finished product free from the obnoxious resin and other inert matters, retaining the alkaloids, Hydrastine, and Berberine in their natural combination.

Perfectly representing the drug C. C. for gram, making clear solutions with Water, Wine, Syrup, etc., and CONTAINING NO ALCOHOL, there is nothing left to be desired.

Physicians will find its use upon delicate surfaces attended by most happy results, and wherever Hydrastis is indicated Fluid Golden Seal (Lilly) may be used with confidence.

DOSE—10 to 60 minims (.6 to 4. c. c.)

For lotion or injection, take of

Fluid Golden Seal (Lilly),	1 fl. oz.,	(32, c. c.)
Water	7 "	(224, c. c.)

Price per Pint, ... $1.25

Sent per express on receipt of price.

AROMATIZED LIQUID PEPSIN.

EACH FLUID OUNCE REPRESENTS:

Pepsin	28 grains.
Hydrochloric Acid	5 grains.
Lactic Acid	1 grain.
Glycerine	2 drachms.
And Aromatics.	

A MOST RELIABLE LIQUID DIGESTIVE.

It contains just sufficient free hydrochloric acid to keep the pepsin in solution, thereby avoiding the vitiating effects produced by the large excess of acid which many preparations of this kind contain. It has a pleasant aromatic odor, and an agreeable acidulous taste, and will be found particularly palatable and refreshing to invalids and others with delicate stomachs.

For the treatment of *pyrosis* and other forms of dyspepsia, in which the use of pepsin is indicated, and particularly in the *diarrhœa of infants during dentition*, physicians will find this the most desirable form in which to exhibit this valuable remedy.

DOSE—From a teaspoonful to a half wineglassful at meal time, or as the physician may direct.

IN PRESCRIBING, BE CAREFUL TO WRITE

"AROMATIZED LIQUID PEPSIN" (LILLY,)

THAT OTHER PREPARATIONS MAY NOT BE SUBSTITUTED.

Price, per Pint Bottle, ... One Dollar.

Sent by express on receipt of price.

7

THE

VIRUS OF VENEREAL SORES,

ITS UNITY OR DUALITY.

BY
FREEMAN J. BUMSTEAD, M.D.,
LATE PROFESSOR OF VENEREAL DISEASES IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

EXTRACTED FROM THE TRANSACTIONS OF THE
INTERNATIONAL MEDICAL CONGRESS,
PHILADELPHIA, SEPTEMBER, 1876.

PHILADELPHIA:
1877

PHILADELPHIA:
COLLINS, PRINTER,
705 Jayne Street.

THE VIRUS OF VENEREAL SORES, ITS UNITY OR DUALITY.

THE question, the discussion of which I have the honor to open to-day, is expressed in the following terms:—"THE VIRUS OF VENEREAL SORES, ITS UNITY OR DUALITY."

In presenting this question, the first inquiry that suggests itself to one's mind is whether it is identical with the question of the "Unity or Duality of Syphilis," that, for the last twenty-four years, has excited so much interest and discussion in the medical world. I reply that it *is* essentially the same. To ignore this fact, to attempt to assume a new departure, to consign the question of "unity or duality" to the tombs as having no bearing upon our present views, would be a fraud upon medical history and a source of confusion to the student; since those who have so earnestly advocated the so-called "duality of syphilis," have never for a moment supposed that there existed two kinds of syphilitic virus, but merely that there was more than one poison at work in the etiology of a complex disease known for many years under the name of syphilis; and he who now recognizes a duality of poisons in venereal sores, is a syphilitic "dualist" in the sense in which that term has been employed. It will be seen, however, that the term "duality of syphilis" has always been a misnomer, and the form of the question presented to us to-day is most appropriately substituted for it.

I take it for granted that the question proposed to us is intended to include the poison or poisons of every kind productive of venereal ulcers, and that the term virus is to be used in its broadest sense, viz., that of *contagious principle* or *poison*. When speaking of a special poison supposed to be incapable of generation *de novo*, I shall call it a *specific virus*.

Allow me also to add that I shall use the terms *chancre* and *chancroid* in the sense which is commonly received in this country—chancre as indicating the initial lesion of syphilis, and chancroid as indicating the "soft chancre" of the French school, and the "chancre" of the German school.

Three views as to the origin of venereal sores have been entertained:—

(1) All venereal sores are due to a single, specific virus, the virus of syphilis.

(2) Some venereal sores are due to the syphilitic virus, and others to a distinct specific virus, known as the *chancroidal*.

(3) Some venereal sores are due to the syphilitic virus, and others to the inoculation of the products of simple inflammation, in which latter case no specific virus exists.

The clinical observations and artificial inoculations, which have been brought forward, for and against these several theories, must be familiar to those here present, and I shall therefore limit myself to reviewing them and drawing my own inferences from them, as a basis for the discussion which is to follow. Indeed, any other course would be impracticable within the limits of this paper.

The view first mentioned, viz., that all venereal sores are due to a single virus, the virus of syphilis, had been the prevailing one for nearly three centuries prior to the year 1852. At the same time, it had not escaped the notice of many observers that the results of contagion were by no means identical; that, in some cases, the persons infected showed no symptoms after the healing of their ulcers, while others developed a train of symptoms, lasting through years, and even transmissible to their children.

In the year 1852, Bassereau claimed a distinct cause or origin for each of these two classes of cases. He founded his claim, first, on the history of venereal sores, whereby he endeavored to show that, although contagious ulcers of the genital organs, communicated in sexual intercourse, had been well known to the ancients, yet that the constitutional disease which we call syphilis made its first appearance in Europe in the latter part of the fifteenth century.

While believing this argument drawn from history to be a valid one, I would not insist upon it in a discussion like the present, which should be based upon scientific data. I will merely remark that this argument will receive additional support, provided that it can be shown that the chancroid is due to a poison generated by simple inflammation, and hence that it must have existed at all times and among all nations.

Bassereau's second argument was based upon the "confrontation" of persons affected with venereal diseases, and he and others were able to prove, in several hundred cases, that when the disease was local in the giver it was also local in the recipient, and that when it was constitutional in the giver it was always constitutional in the recipient; in other words, that the broad line of distinction separating a local disease on the one hand from a constitutional disease on the other, was constant in successive generations without limit.

It will be observed that this proof does not involve any differences real or supposed in venereal ulcers themselves; it may be said to rise above such consideration in that it ascends to the source and origin; and I do not hesitate to say that much of the confusion and contradiction of opinion upon this subject has been due to the fact that observers have confined themselves to investigating symptoms, which, though generally constant, may yet be poorly marked or even wanting, and which often require practised eyes and fingers for their recognition.

Now I maintain that this clinical proof adduced by Bassereau has never been shaken, for, although local ulcers have been produced by the inoculation of matter from syphilitic sores, yet this is susceptible of, and indeed requires, as we shall see hereafter, another explanation than an identity of poisons, and, on the other hand, *there has never been a single authentic case in which syphilis has been produced by the inoculation of chancroidal matter from a person who has had only a chancroid and not syphilis.*

Bassereau does not appear to have speculated on the cause of the difference in venereal ulcers. I do not find in his work the words "Unity or Duality of Syphilis," nor any expression of opinion as to the existence of a specific virus for the local sore. He simply says that he is obliged to recognize a different cause (*une cause différente*) for the local and constitutional diseases.

A school of dualists, however, soon sprang up, who departed from the simple faith of their founder in attaching undue importance to the characteristics of the sores themselves, and who claimed for the local sore a distinct, special virus of its own.

One of the tenets of this school was that the secretion of syphilitic lesions could not be inoculated with success either upon the person bearing them or upon any other person affected with syphilis, and this tenet, in the theory of dualism, was looked upon as vital.

It was not long, however, before it was successfully attacked and overthrown. Clerc, of Paris, Melchior Robert, of Marseilles, and others, succeeded in inoculating the secretion of syphilitic sores upon the bearers, with the result of producing ulcers, without incubation, bearing all the characteristics of the chancroid, and inoculable in successive generations. Mr. Henry Lee, of London, and Köbner and Pick, in Germany, also found that a true chancre would become auto-inoculable, if it was irritated by the application to its surface of powdered savine, or by having a seton passed through its base, so as to render its secretion decidedly purulent. Again, Boeck and Bidenkap, in Christiania, in their later attempts at syphilization, took matter exclusively from true chancres, and obtained the same result as when they had inoculated chancroidal pus. In five cases reported by Bidenkap and Gjör, of Christiania, matter was taken from ulcers obtained in the above manner, and inoculated by patients free from syphilis upon themselves, and in only one instance did any general symptoms ascribable to syphilis follow, and these were of a doubtful character.

Gentlemen, the import of these successful auto-inoculations of syphilitic lesions as regards the question before us, deserves our serious consideration. Let us inquire what they apparently proved, and what they actually did prove. They *apparently* proved the identity of the syphilitic poison with that of the local sore. By their means, it was supposed that the doctrine of duality was demolished, and the advocates of unity were triumphant. Whether this conclusion was not too hasty, we shall presently take occasion to inquire. But these experiments *actually did* prove the absence of any distinct *specific* virus in the chancroid, incapable of generation *de novo;* for here were chancroids artificially produced independently of any descent from chancroids.

You are well aware of the defence adopted by the dualistic school—the mixed chancre, a sore combining both the syphilitic and chancroidal specific poisons—which, it was asserted, would satisfactorily explain all these cases and still leave the tenets of dualism, as at that time understood, intact. This explanation was for a while regarded as satisfactory, but it could no longer be upheld when such experiments had been multiplied indefinitely; when their number was so great that the chances of the commingling of two kinds of specific virus and their simultaneous inoculation was reduced to a homœopathic absurdity; when an indurated syphilitic primary lesion could be taken at random, and, after due irritation, its secretion could be successfully inoculated with the effect of producing pustules and ulcers bearing every characteristic of the chancroid; and when the same result could even be obtained at will by the inoculation of the secretion from a purely secondary lesion, as, for instance, a syphilitic mucous patch! If the chancroid was dependent upon a distinct specific virus, its presence in all these cases was simply impossible, and yet not a single shade of difference could be pointed out between the result produced and that from the most emblematic chancroid ever met with in practice. Dualism was indeed henceforth demolished, if by "dualism" be meant that each of the two kinds of venereal sore has a distinct, specific virus of its own. In the face of the experiments referred to, I cannot believe it possible to defend in future any such doctrine of duality.

But the last word had not been spoken in favor of a distinct origin of the chancroid from that of syphilis, nor the last experiment made and recorded which would decide the question before us to-day. Let us examine more carefully those experiments I have just referred to. What was the matter so successfully inoculated? The pure, unmixed virus of syphilis? By no means. It was a compound product, taken, to be sure, from a syphilitic lesion, but a lesion irritated commonly to suppuration by artificial means; containing possibly the germ of syphilis, but containing also, and in fact chiefly composed of, *pus*. Which of these two factors was responsible for the effect produced? The syphilitic virus? In that case this virus should have preserved its power of infecting the constitution, and matter taken from these ulcers, and inoculated upon healthy individuals, should invariably have produced syphilis, which has been shown not to be true. Moreover, if it could be proved that pus alone, free from all suspicion of syphilitic mixture, was capable of producing the same result, then pus was the guilty factor, and there was no such transformation as supposed by the unitists. Such proof we now have as will be seen from the following cases:—

In 1865, Prof. Pick, at the suggestion of Prof. Zeissl, inoculated simple, non-venereal matter of inflammatory origin upon syphilitic subjects. Taking the secretion from pemphigus, acne, scabies, and lupus, he inoculated it upon persons affected with syphilis and produced pustules, not preceded by incubation, and the matter of which was further inoculable through several generations. Counter-inoculations upon the persons free from syphilis who were the bearers of these affections, were without effect. The same result was attained by Kraus and Reder with the pus of scabies, and by Henry Lee with pus from a non-syphilitic child. The late Mr. Morgan, of Dublin, also succeeded in producing pustules and ulcers, identical in appearance with the chancroid and capable of re-inoculation through a number of generations, by inoculating syphilitic women with their vaginal secretions.

It would thus appear that the skin of syphilitic individuals possesses a marked vulnerability, a peculiar aptitude to become inflamed when acted upon by irritants; but this is nothing more than is seen in other non-syphilitic subjects, whose vital powers are impaired by any cause whatever. For instance, it is well known that among medical students engaged in the dissecting-room, it is those who are run down by hard study and overwork, who are most likely to become inoculated by fluids from the dead body. Again, the idea which was entertained by some that there must be a syphilitic soil for such inoculations to succeed upon, is disproved by other experiments which I have to relate.

The earliest of these experiments, as far as I am aware, have never been published, and were performed in the winter of 1867–8 by Dr. Edward Wigglesworth, Jr., of Boston, upon himself, while pursuing his studies at Vienna. He has kindly furnished me with the following history: After stating the grounds which led him to the conclusion—original, it appears, with himself—that "*pus pure and simple might be the cause of the chancroid,*" Dr. W. says:—

"I would state that I was free from all disease either hereditary or acquired; that I had never had a sore of any kind or any local or constitutional lesion of the skin or mucous membranes, and that I was merely a little run down from overwork in the hospital. I took from an acne pustule upon myself, pus, which I inoculated upon myself in three places on the anterior radial aspect of my left forearm at the junction of the middle and upper thirds, first pricking open the apertures of hair follicles and then rubbing the pus into them. The result in the course of three or four days was three well-marked pustules. From each of these I inoculated one new spot upon the same arm nearer the wrist. The result was three new well-marked pustules. From each of the three of the second series I again inoculated fresh spots still nearer the wrist, and again the result was positive. The second series was hardly as well-marked as the first, and the third series was slightly inferior in vigor to the second; still all were well marked, the nine sores being at the same time present upon my arm. On removal of the crusts, perceptible ulceration of the skin was found to exist. Zeissl, with whom I was studying at the time (1867–8), happened to be lecturing upon dualism, and requested me to show my arm to the class to prove the production of ulceration from properly inoculated, simple, healthy pus. There were no buboes in my case, nor did the ulcerations require other treatment than exclusion from the air by means of a simple dressing, and cleanliness. The scars remain to the present day. I thus convinced myself and others—

"I. That the products of inflammatory action, if properly introduced into the human integument, may cause local ulcers, closely resembling chancroids and re-inoculable in generations.

"II. That this pus need not come from a syphilitic person or be inoculated upon a syphilitic person. If taken from, or inoculated upon, a person debilitated by any disease as syphilis, the effect would doubtless be the same though probably greater in intensity."

Many years subsequent to these experiments of Dr. Wigglesworth, which ought to have been made public at a much earlier date, Kaposi[1] published the following statement: "My own experiments have taught me that non-specific pus, such as that from acne and scabies-pustules, when inoculated upon the bearers as well as upon other non-syphilitic persons, will produce pustules whose pus proves to be continuously inoculable in generations; that from these pustules losses of substance occur, which heal with the formation of scar-tissue; and that as the number of pustules produced increases, the inoculability of the pus derived from them diminishes and finally ceases altogether."

It is not necessary for me to dwell upon the exact correspondence of the result of such inoculations and that obtained by the inoculation of so-called chancroidal matter.

The idea that the products of inflammation are the source from which the chancroid springs, and that the simultaneous inoculation of these products and of the germs of syphilis will account for the varying degrees of ulcerative and other phenomena met with in varieties of venereal sores, will strike many of you as novel, and it is easy to foresee the objections which will naturally arise. It will be asked: Can it be possible that the pus from acne, ecthyma, or scabies can give rise to a sore equal in duration and severity to that produced by matter from a typical chancroid? Comparative inoculations upon the same individual with these two agents may even be adduced to show that this is not the case. In replying to such objections, it must be frankly admitted that we do not as yet fully understand all the laws governing the inoculation of septic matter. We cannot, for instance, fully explain why one individual should be more susceptible than another, why different parts of the integument, as that of the chest, the arms and the thighs, should develop ulcers so varying in their destructive tendency as is shown in the practice of syphilization; why the secretion from purulent urethritis and purulent conjunctivitis should be interchangeable, and yet have no effect upon the mucous membranes of the mouth, nose, or ear; why a chancroid of the prepuce should inoculate other points of that membrane, and yet commonly spare the glans penis; or why one upon the os uteri should allow the walls of the vagina in contact with it to escape; and so with other instances that might be brought forward.

---

[1] Die Syphilis der Haut, etc., p. 47.

That the effect produced is to a great extent proportionate to the ulcerative action of the source from which the matter is taken, is evident to any one who has performed auto-inoculation from indurated chancres. If the chancre consist of a simple erosion with a watery secretion, seated upon an indurated base, the first two or three, or even more, attempts at auto-inoculation will probably fail; but as the surface of the sore becomes irritated to suppuration by repeated pricks of the lancet, these attempts will succeed, first in producing minute pustules and ulcers, but subsequently, as the suppuration increases, others larger and better developed. Taking these facts into consideration, it need not be wondered at if comparative inoculations upon the same individual with matter from a simple skin affection and from a chancroid of the genitals, should show greater severity in the latter. But without entering further into this subject, I claim it to be sufficient to have shown that the inoculation of the products of inflammation will produce an effect identical *in kind*, even if not in degree, with that of matter from the most typical chancroid; and this is my reply to the objections I have named.

I have now, gentlemen, called your attention to the evidence drawn from artificial inoculation in favor of a duality in the poison of venereal sores, some of them being derived from the virus of syphilis, while others are due to the products of simple inflammation. This view, which I believe to be most consistent with our present knowledge of pathology, and to be supported both by experience and scientific investigation, has of late years found its advocates among medical men.

Thus Bäumler, in his recent able work on syphilis, after quoting experimental inoculations like those just given, says:—"The necessary conclusion is, that the *poison of the soft chancre may, under certain circumstances, be produced de novo without the intervention of the syphilitic virus*, while the syphilitic poison propagates itself only in one continuous series. Hence the chancroidal poison, or whatever in these experiments produced the pustules resembling chancroids, cannot even be compared with the syphilitic poison, to say nothing of regarding them as identical."

In the recent and well-known debate upon syphilis before the Pathological Society of London, that accomplished surgeon, Mr. Hutchinson, came within one short step of the truth when he admitted the origin of the local venereal sore to be "the products of syphilitic inflammation, but not usually containing the germs of syphilis." If he had omitted the adjective, "syphilitic," before the word "inflammation," his expression would have been consistent with the facts at present in our possession, and he would have found it inconsistent with such facts to proclaim dualism as dead, since, as I have already shown, dualism is nothing more than a duality of poisons in the evolution of venereal sores.

If the view which I advocate be the correct one, it suggests an interesting analogy with the history of our belief as regards the nature of gonorrhœa, an affection which in the last century was regarded as due to the syphilitic virus. Ricord finally adduced convincing proof that it had nothing to do with syphilis. It was afterwards supposed to depend upon a virus of its own, the gonorrheal virus. We now know that it may be caused by any simple irritant, but more especially by the pus from the urethral and other inflamed mucous membranes, whether originating or not in contagion. Such as the history of gonorrhœa has been, so, I predict, the history of the chancroid will be.

In the preceding remarks, I have only casually alluded to the evidence in favor of a duality of poisons to be found in the symptoms presented by venereal sores themselves, and by the lymphatic ganglia in anatomical relation with them. The value of this evidence must always depend upon the observer's knowledge, skill, and experience in venereal diseases. How often do we witness the grossest errors in the diagnosis of venereal ulcers made by men who are deservedly eminent in general practice? Moreover, instances not unfrequently occur in which the symptoms are ill-defined, and in which the most experienced will wait for further developments before expressing an opinion. Hence, so long as the symptoms of the sores themselves were alone considered, the question of unity or duality remained undecided. And yet, to my own mind, the evidence founded on these symptoms is not to be despised, for in the great majority of cases they are sufficient to enable us to distinguish the syphilitic from the local sore, and the obscurity of some cases is readily explicable on the ground of the simultaneous inoculation of the products of inflammation and the germs of syphilis, and the well-known immediate action of the one and the incubation of the other.

One word as to the form of the question with which we started out. It may appear to some that as the products of inflammation are various, the question should read thus: "The virus of venereal sores, its unity or plurality?" But this is a matter of small moment. If any one prefers the latter reading, I have no doubt it will be accepted as an amendment. The actual point at issue is whether the syphilitic virus is, or is not, responsible for all the venereal ulcers met with in practice, and this is sufficiently implied in the question as originally worded.

Gentlemen, I will not longer detain you. I must apologize for the incompleteness and brevity of my remarks, necessitated, however, by the short time at our disposal.

The conclusion which I have to offer you, is based, as I have endeavored to show,

(1) Upon clinical experience, more especially in the confrontation of persons affected with venereal sores.

(2) Upon artificial inoculation.

(3) Upon the corroborative evidence presented by the symptoms of the sores themselves.

For convenience of discussion I shall divide my conclusion into the following propositions:—

I. The virus of venereal sores is dual.

II. Some venereal sores are due to the inoculation of the syphilitic virus.

III. Other venereal sores are due to the inoculation of the products of simple inflammation.

IV. These two poisons may be inoculated simultaneously.

Dr Tell

With Compliments

RW

THE DANGERS OF THE TRANSMISSION OF SYPHILIS BETWEEN NURSING CHILDREN AND NURSES IN INFANT ASYLUMS AND IN PRIVATE PRACTICE.

BY

R. W. TAYLOR, M.D.,

SURGEON TO THE NEW YORK DISPENSARY; PHYSICIAN TO CHARITY HOSPITAL.

Reprinted from the American Journal of Obstetrics and Diseases of Women and Children, Vol. VIII., No. III., November, 1875.

NEW YORK:
WILLIAM WOOD & CO., 27 GREAT JONES STREET.
1875.

THE DANGERS OF THE TRANSMISSION OF SYPHILIS BETWEEN NURSING CHILDREN AND NURSES IN INFANT ASYLUMS AND IN PRIVATE PRACTICE.

By R. W. TAYLOR, M.D.,
Surgeon to the New York Dispensary; Physician to Charity Hospital.

THE mode of syphilitic contagion to be studied in this paper is for various reasons interesting and peculiar. Its origin is wholly unassociated with the sexual act, and on the contrary is intimately dependent upon that process so necessary to the growth and maintenance of the being, namely, nursing at the female breast. The agent which communicates the contagion is neither a syphilitic man nor woman, but on the contrary is an innocent infant, which itself has been the victim of syphilis inherited from either or both parents. The secretion in which the disease originates is not derived from a primary syphilitic lesion, but is the product of secondary lesions, namely, mucous patches, which are so frequently found in the mouths of syphilitic infants. The method of this form of syphilitic contagion is as follows: An infant, the victim of hereditary syphilis, having mucous patches in its mouth, is nursed by a healthy woman; the morbid secretions of its mouth are deposited on her nipple, and thus she becomes infected with syphilis, having its initial lesion on this site, which is, in due time, followed by general manifestations. Such instances are peculiarly distressing in themselves, and unfortunately very often the trouble does not end here, as a woman thus syphilitic is very liable for obvious reasons to infect others, so that instances have been recorded in which syphilis thus communicated to a nursing mother has, in time, infected every member of the family. This further source of infection is also important and interesting, and will require our study. In this case the reverse of the previous fact is observed, as the contagion is here derived from the woman with a syphilitic chancre, or chancres, on her breast, the secretion of which infects, or is liable to, as many nursing infants as may be assigned to her. These modes of contagion, especially the first, have attracted attention, and have been particularly dwelt upon by authors, especially French and Italian, but in America, until now, they have escaped special attention. In other countries they have been shown to be prolific sources of syphilis, and means have been taken to prevent them. My own observation shows me that the time has arrived when they should be thoroughly discussed among us, since undoubted instances of syphilis thus communicated have occurred both in hospital and private practice. But by far the greater danger exists in large hospitals or asylums, where great numbers of children are congregated, and where wet nurses are employed to care for them. In private practice isolated cases of contagion are liable to occur, but in the institutions referred to, owing to certain circumstances to be considered further on, a very great and serious danger exists that syphilis will be communicated. We shall see that there are special reasons why, owing to existing regulations and customs in these institutions, this danger is peculiarly menacing, and certainly no one will doubt the propriety of inquiring thoroughly into it, with a view of its future prevention. During the summer I have had brought prominently to my notice by Dr. C. A. Loring a woman thus rendered syphilitic in a large infant institution, and her case brings out forcibly the dangers I allude to. I propose therefore to make it the basis of this study, as by so doing I can present the whole subject in all of its aspects in such a manner I hope as to be clear and forcible to my readers. The case is as follows:

Emma McNally, English, aged 19, a married woman, entered a lying-in institution in this city on the 5th of May, 1875. She was pregnant for the first time, and that night was delivered of a healthy male child. The mother was and had been very healthy, and the next day her milk came in abundance. In obedience to the rules of the institution, that she should nurse one or more children besides her own in payment for the care received, she gave the breast to two or three babies. The next day a very sickly looking, wrinkled child was assigned to her for care. She nursed this together with her own for a number of days, and then, owing to its debilitated condition, it was sent to the country. She did not notice any sores about the child, though she did not see it undressed, but she says that it had the sprue, for its mouth was very sore. The next day a foundling was given to her to nurse regularly, and though she was very reluctant to take it, she did so. She described the child as being very thin and wrinkled, and appearing like a little old man, and having sprue very badly. Besides having this child as a regular nursling, she occasionally gave the breast to other children, at the request of their nurses, as her milk was very abundant. While in the asylum she reserved the right breast for her own child, and gave all the others the left. She remained in this condition, taking care of the sickly child, for exactly two weeks, during which time she sometimes noticed that her nipple was slightly sore. She was then in the asylum from the 5th to the 20th day of May, two full weeks. From the 20th of May to the 25th of June she remained at home, and only nursed her own child, then giving it either breast indifferently. At the latter date, June 25th, and on the day following she nursed at the breast the infant child of a lady in private life. The latter child is said to be in appearance healthy, as was its mother also, except that she did not have much milk. In a day or two after this again, that is about June 27th or 28th, she noticed that her left nipple was slightly sore; she describes it as presenting a raw appearance in one spot and being tender. The pain and inconvenience prompted her to spare that breast, so she nursed her child with the other, except for a few days, when she put it to that breast in order to relieve the tension produced by the accumulated milk. She thinks that, in all, the child did not nurse from that breast more than two days after she discovered that it was sore. It may be well to add here that she attributed the trouble of her nipple to the *lady's* child which she had last cared for. The ulcer increased in size, and caused her severe pain, so she consulted Dr. C. A. Loring, who diagnosticated it as a syphilitic chancre. In order to thoroughly verify the diagnosis, I was asked by the doctor to see the case, and the following were the appearances observed July 20th, 1875. On the outer two-thirds of the apex of the left nipple was a thin brownish-green crust, which, being slightly adherent, was painlessly removed with ease, revealing a shining grayish-pink ulcerated surface, of great smoothness, the edges of which were not at all elevated. Upon pinching the nipple, a very well-marked induration was felt, and this act showed well a blanching of the tissues affected, so often observed in hard chancres, and due to the density of the deposit. The lesion was evidently an infiltration into the greater part of the stroma of the nipple, with superficial ulceration. The pectoral glands could not be felt, as the woman was quite fat, but in the axilla a typical syphilitic adenopathy was felt, the gland being nearly as large as a walnut. One of the left post cervical glands was in a similar condition, as was also the left epitrochlear, which was more than usually enlarged. The inguinal ganglia were not noticeably enlarged. The peculiar character of the ulcer, its indolence, the state of the glands, and the history of the case, led me to confirm fully the diagnosis previously made by Dr. Loring. If any doubt had been entertained, it would have been completely dispelled in a short time, for in the last of July, constitutional syphilitic manifestations showed themselves. On the first of August Dr. Loring addressed a note to me, in which it was stated that she had within a few days witnessed the evolution of a general syphilide, and had observed that the temperature was 104½° Fah. A few days later I saw the patient, and observed a general roseola, which was very copious, and showed a slight tendency to become papular, also much hyperæmia of the pharynx. The woman complained of great weakness, and of fugitive pains with nocturnal exacerbation. For the purposes of this paper, no further particulars of this case are necessary, as we have the undoubted evidences of syphilis in the woman. It is essential, however, to our object to consider the condition of the two infants, and it was through the assiduity of Dr. Loring that the details were obtained. The first child given her as an extra was, as we have stated, sickly and wrinkled in appearance, and had a very sore mouth, which was considered to be of an aphthous nature. The next child which was assigned to her in a day or two was a female foundling, which she kept for the remainder of her term in the institution. The woman states that so sickly and withered did the child appear, looking like a little old man, that it attracted the attention of other nurses as being diseased. She very reluctantly assumed its care at the urgent solicitation, even command, of the visiting physician, who was, she said, aware of the fact that the child had a sore mouth. Owing to the extreme condition of debility of these two children, they were sent to a suburban branch of the institution, where it was thought that the fresh air might be beneficial. Here the diagnosis of syphilis in each case was entered; still they were each for a time nursed by a woman, and after that they were fed by the bottle until their death, which occurred on the nineteenth of June.

Let us now study the history of the woman who nursed these children. She entered the hospital on the 5th of May, and between that date and the 20th of that month, she gave her breast to two syphilitic children. From the fact that her chancre or initial lesion of syphilis appeared on the nipple, it is evident that the contagion took place through that organ. As she nursed these children who had sore mouths, it is certain that from either one of them she derived her contagion. Knowing as we do that the first incubation period of syphilis ranges between 7 to 10 days at the shortest, and 60 at the longest, we apply the fact to this case. Thus the nursing of the suspected children occurred between the 5th and 20th of May, and the appearance of the chancre was on the 28th of June, so that, supposing that the contagion was due to the first child which she nursed about three or four days, the incubation period would be 50 days. This, though somewhat long, considering the great vascularity of the nipple, and the favorable condition which it offers to the transudation of infecting fluids, is fully in accord with the well-demonstrated law of syphilis. Again, supposing that the contagion was derived from the second or foundling child, the incubation period would be shorter, it being nursed later; it would then be from 42 to 47 days. This is reckoning that the child was nursed from the 10th to the 20th of May. Such being the case, as the wôman was healthy, and had not, of course, given the breast to any child before her confinement, nor had that organ been subjected to any unnatural contact, contagion certainly did not occur prior to her entering into the institution. Following up the woman's history, we find that she notices nothing unnatural as to her breast, and that she nursed only her own child until June 26th, when for two days she gave the breast to the child of a lady, who temporarily hired her as wet-nurse. Two days after this she noticed that her nipple was sore, and she naturally, but of course erroneously, attributed her trouble to the lady's child. As her lesion was syphilitic, we are able to positively state that she did not derive the contagion from this child, for only two days elapsed from the date of its nursing by her to the appearance of the chancre, which is too short a time for the development of syphilis. The circumstance of the woman wrongly attributing her contagion to the last nursling cared for, we shall find later on to present important points. The plain facts, then, of this case are these: A perfectly healthy woman, free from syphilis, enters a lying-in institution in order to be cared for during the period of childbirth. Being unable to pay, she consents, according to the rules, to nurse one or more children of the institution in addition to her own during her stay. To her are assigned two children, which at the time have sore mouths, and which soon after die of syphilis. She nurses them for two weeks, at the same time that she nursed her own child. In less than six weeks after this stay in the hospital a chancre develops upon her left breast, and it is very necessary to add here that she always gave the left breast to the strange children, and *never* the right one, which she reserved for her own child exclusively. From these facts we are warranted in the conclusion, and such is supported by the well-known laws of syphilis, *that the woman was contaminated in that hospital.* She certainly did not receive the contagion prior to her entering, for, apart from the improbability of the fact, her statements prove, as has been said before, that neither of her breasts at that time were subjected to any process by which syphilis could be communicated. It is certainly positive that she did not become syphilitic from the child nursed two days before the appearance of her chancre, as such an incubation would be too short for syphilis, and besides this the child was without a blemish. All the circumstances and the scientific facts deduced therefrom point to the two sickly children in the hospital as the sources of the syphilis. It is impossible to determine which one was the infecting agent; still such knowledge is unnecessary, since we have the undoubted fact that the syphilis was communicated by one of the children in the institution. Now upon this fact hinges a number of serious considerations. Let us endeavor to learn how this syphilitic contagion was caused. We have the fact as given by the woman, who did not know its full weight, that the two children had sore mouths. As they were subsequently pronounced to be syphilitic, it is fair to suppose that the soreness was really due to mucous patches, the secretions of which we know to be extremely contagious. It is to be inferred that at that time the attending physicians in the hospital did not recognize the syphilitic condition of the infants, as the woman was led to believe the children had only a simple nursing sore mouth. Certainly that is all they were treated for at that time. As far as I can learn, upon careful inquiry, syphilis was not suspected nor settled upon as the disease affecting the children until they reached the suburban hospital. The fact now is perfectly plain that a syphilitic condition of the mouth was regarded as of simple nature, and the result was that a woman became a victim of syphilis. This is a serious circumstance, and its occurrence is very significant, as it suggests to us that under the present regulations of some of our infant charities there is a great danger of syphilis being transmitted to nurses, and of course they may further communicate the disease. It becomes, then, an interesting subject for study to determine exactly the sources of the danger, and to settle upon such suggestions which, if properly carried out, will prevent in future such sad accidents. Now we know how very prevalent syphilis is, and that in infant asylums many cases of infantile syphilis are to be found. We also know that mucous patches in the mouth (I shall speak only of them in this study) occur very frequently in hereditarily syphilitic children. From my own observation I am able to say that nearly 70 per cent. of all cases of hereditarily syphilitic infants have their buccal lesions, which we know to be equally as powerful in conveying the contagion of syphilis as is the secretion of its initial lesion. These being the facts, we see that we have here, I hope I may say not an unsuspected, but certainly a prolific source of syphilitic contagion. As these lesions occur in the mouth, it is plainly seen how readily their secretion is conveyed to the nipple, the tissue of which presents every facility to the implanting of the syphilitic poison. These facts cannot be overlooked; their significance demands careful attention on the part of the authorities, both lay and medical, of these institutions, for if they are unheeded the benefits of such, when tried in the balance, become very doubtful. I am loath to arraign any set of gentlemen, and accuse them of neglect;

but I am certain of the fact that, in several of the infant institutions, this mode of the transmission of syphilis is not fully, I will not say understood, but rather appreciated and provided against. With this serious danger of the occurrence of syphilitic contagion in these institutions, too much care cannot be exercised in its prevention. Under the rule that a woman shall nurse one or more infants besides her own, how great is the danger that she will become syphilitic, and then that she will transmit the disease to her own child. Here we find that the evil is double. In the present case the woman, very luckily for her infant, reserved one breast for it exclusively, hence it escaped, for I was unable to find any trace of syphilis in it. Still it might have received the contagion from its mother. Of such cases there are unfortunately many precedents; for there are in French journals the records of cases in which not only the nursing infant was affected, but also several members of the family received the contagion from the chancre in its mouth by kissing it, the infant having gotten its chancre from its mother's breast, upon which a similar lesion existed caused by mucous patches in the mouth of a tainted nursling. Then, again, the liabilities to contagion do not end here. A woman having plenty of milk (particularly among the lower classes) very frequently nurses other children, whose mothers do not have enough, or they may engage themselves, after they leave the institution, as wet nurses. Here we see what dangers are run. In the early stage, and in some instances throughout their whole course, chancres of the breast are very slight in appearance, and often regarded as of simple character; sometimes as a pimple or again as a slight chafe or fissure, hence their danger is not feared, and syphilitic contagion may result. These are not imaginary circumstances, for I have before me while writing details of cases in which these facts were observed in France. Turning again to the case which is the text of this paper, we find that this woman engaged herself as a wet-nurse; fortunately for the child attended, the woman was yet in her incubation period, and her chancre had not yet appeared, so the child escaped. The woman says that for a short time she regarded it with no apprehension, consequently it would not have prevented her from giving that nipple to the child, for we know that these women nurse children even with breasts quite sore. Further on I shall make some practical suggestions apropos of this period of incubation. These, then, are the dangers, and it certainly may be said that they are of formidable character, of syphilitic contagion between nursing children and nurses. Let us see how they may be in a great measure prevented. But in this direction we meet an obstacle of some importance in practice, that is, the very great difficulty of determining in some cases whether or not a certain sore state of the mouth is or is not due to syphilis, or whether it is simple in nature. Indeed I think it will be conceded by those who see many cases of simple nursing sore mouth, which are so very prevalent in large institutions, that their diagnosis from syphilis, particularly when severe in form, is sometimes difficult; indeed in cases in which false membranes form over the ulcerations, it is almost impossible, unless concomitant symptoms and lesions are taken into consideration. The scope of this paper does not permit me to fully consider the various features of the simple and specific sore mouths of infants, and I shall but briefly allude to certain general facts. In many simple cases of stomatitis no suspicion of syphilis is liable to occur, as the benign character of the buccal lesions is apparent, therefore there is little liability to error as regards them; but in the severer forms, in which there is sometimes great systemic debility, and extensive ulceration, with patches either membranous or parasitic, there is much danger of error. This danger is rendered all the more marked as certain changes are liable to take place in the syphilitic lesions in the mouths of children, which mark their character. If we had only mucous patches in their typical form to recognize in the case of syphilis of infants, an error of diagnosis would not often occur to an educated physician; but unfortunately these lesions sometimes undergo rapid and extensive metamorphosis, losing their peculiarities of appearance, and coming in the end to look very much like the severer forms of stomatitis and aphthous sore mouth. I think that observers who have studied this matter will agree with me as to the pathological resemblance. Still I think there are certain facts in the lesions themselves which will assist the observer. In syphilis, the coryza which most constantly accompanies the mouth lesion is much more severe, and the snuffling much greater, and there will be observed a tendency for the syphilitic lesions to develop at the angles of the mouth, and there to induce ulceration, which may extend to the integument. This as a diagnostic point is of much importance. In syphilis the focus of the inflammation is developed upon the tongue, the fauces, and the region named, whereas, in the simple form of sore mouth, the tissues generally, except the throat, are involved, and the gums are affected, while they most constantly escape in syphilis. Again, in the simple form of trouble, the sulci between the lips and the teeth are often implicated, and in syphilis it is usual for them to escape.

But in all instances we have to fall back upon the history of the case, and upon the existence of other lesions, and here we generally have features and facts which are satisfactory. In hereditary syphilis it is very rare to observe buccal lesions only; we shall generally find dermal manifestations, and especially do we very most constantly see anal mucous patches. If such unequivocal lesions are found, the diagnosis is conclusively settled. It must be remembered that in some cases of hereditary syphilis, the cutaneous lesions are very slight and ephemeral, and in a hospital they might escape the observation of the attendants, especially where there are so many children. Too much care cannot be exercised in this matter of diagnosis, for we see that upon it in many cases depends the future health of previously healthy women. Now, then, as we have, I think, fully, and I hope satisfactorily, demonstrated the facts of the prevalence of syphilis in institutions where a large number of infants are congregated; of the frequency of occurrence and dangers of mucous patches in the mouths of these children; of the very frequent occurrence of nursing some mouths parasitic and non-parasitic, and of the great liability to mistakes in diagnosis which exists in many cases between simple and specific buccal lesions,—having, then, demonstrated these facts, we see that they have a very practical import. Thus they show us that more than ordinary care is required in their diagnosis and treatment, in order that errors may not occur, and that syphilis may not be communicated to those women, who, according to requirement, nurse more than one child.

Now, then, when these children are thus given to healthy women, it should first be ascertained that the infant is free from syphilis; should it have a sore mouth, that such is undoubtedly of simple nature. The greatest care should be exercised in the examination of the children, and this duty should be performed only by a physician. An orderly of the institution should not have the power of assigning an infant to any nurse, and, as I have said, the attending physician should satisfy himself fully of the freedom of that infant from syphilis. In a case of doubt the child should be bottle-fed until it is pronounced free from syphilis. This care in the assignment of children to nurses cannot be too rigidly enforced nor too sedulously carried out, for as dangers are numerous and powerful, a proportionate amount of circumspection is necessary. Indeed I think if error is made, it should be on the safe side, and that it would be well to segregate temporarily all cases of severe and doubtful mouth affection. During this period of uncertainty they should be bottle-fed, and each child should have its own utensil, which should be used for it alone, for the reason that syphilitic secretions might be retained on the india-rubber nipple used, and thus the disease would be communicated to an infant having only simple sore mouth. This suggestion is a most important one, and is thus rendered prominent because it is highly probable that among a promiscuous number of children with sore mouths, there possibly might be some afflicted with syphilis. In this event, if the utmost care is not taken, that disease might be communicated. Let us put the matter practically. Suppose, for instance, that among a large number of children with affections of the mouth, and in consequence fed by the bottle, that a nipple and bottle was not reserved exclusively for each, but that they were used promiscuously,—if, as is very probable, there were among them infants with syphilitic mouth lesions, how easy could it be for the contagious secretions of such to be retained upon the nipple, and from this implanted in the mouth of the next infant to which it was given. Infants having sores in the mouth are, for that reason, much more liable to contract syphilitic contagion than healthy ones are. This mode of *mediate contagion*, as it is called, is not at all improbable, and though we have not examples of it under the precise conditions now spoken of, there are numerous cases of syphilis on record in which the disease has been conveyed by the presence of the virus upon some utensil, as, for instance, those for drinking purposes. This probable mode of the transmission of syphilis should be fully borne in mind and acted upon in infant institutions. I am aware that the routine of segregation of children and of their temporary nursing by the bottle would cause an extra amount of labor, and that strong objections might be urged against the use of the bottle, but I think that there is a great need for it, and that it would produce good results. If in a year two women were spared syphilis, I think it might be considered to have worked well. I am led to believe that in some institutions there is a laxity which needs immediate reform; that duties are assigned to orderlies and ward nurses and other women who are not fitted by their education for such cares.[1] Then, again, another important point is brought out by the case which I have reported. According to the woman's story, which I have believed to be true, as it has been verified in all of its particulars by Dr. Loring, a foundling infant was received in the institution, and immediately assigned to her as her regular nursling. This fact conclusively shows that sufficient care was not used; indeed it confirms in our mind the suspicion of laxity. It will be remembered that the infant referred to was a child having the look of a little old man, and that the woman was very loath to care for it, and only yielded when almost peremptorily ordered to do so. The circumstance calls to our mind forcibly the fact, that in hereditary syphilis its manifestations are not usually present at birth, but that generally they appear about the third week, and even later. This delay, as we may call it, in the evolution of syphilitic manifestation in infants suggests to us the practical point, that in the case of a child whose history is not known, as, for instance, particularly that of a foundling, or again one in which it is doubtful, that we may be unable to determine whether it is syphilitic or not,[2] hence that, if assigned to a healthy woman to be nursed, it should be kept under observation, particularly as to its mouth, during a period of about a month. At the end of this time its condition can generally be determined with certainty. I think that the fact is very important indeed, and that its practical application should be enforced in infant asylums. There is, again, one more secretion by which syphilis may be transmitted from a tainted child to a healthy nurse; I refer to the blood. We know of a certainty that this fluid is contagious in the early stages of syphilis acquired or hereditary, consequently a danger, perhaps very remote, exists of an infant thus contaminating a nurse. This of course would be due to an abrasion or fissure in the infant's mouth giving exit to blood which might be planted on the nipple of the nurse. I merely allude to this as a possible source of syphilitic contagion between these parties, but I do not know of an instance of the kind, nor do I think such to be very probable. Still if a child is the victim of hereditary syphilis, it is a dangerous subject to any healthy nurse during the whole of its suckling life; if it has not at one period mucous patches in the mouth, such may develop at any subsequent time, and of course they would be highly contagious. Such being the facts, the natural deduction is evident, *that no syphilitic child should be given to a healthy nurse at any time whatever, certainly not when it has buccal lesions, as then contagion is almost inevitable; nor at any other time, even if the mouth is free from syphilitic lesions, as such are liable to appear at any time.* Apart from their extreme frequency, early in hereditary syphilis they often are developed later on, and have a marked tendency to relapse. These, then, are the sources of syphilitic contagion which are liable to occur to nursing women in large infant asylums.

---

[1] In some of these infant institutions, women, zealous in the work and indefatigable in action, come to occupy positions which require, on occasions, an acquaintance with medicine which is not possessed by many of the sex, and in matters of assignment of patients they have more power than either resident or attending physicians. The present instance shows that in all such matters the medical man should be supreme in power.

[2] In many cases, however, even when nothing is known of the antecedents of the infant, a careful examination of its whole body will reveal its true condition. Though syphilitic manifestations are somewhat late in showing themselves, in the hereditary disease there are in many cases such facts to be gleaned

In venturing to suggest that, in the cases of infants with suspicious sore mouths, bottle feeding should temporarily take the place of the human breast, I do not think I am advocating

even quite early as will either cause a grave suspicion of that trouble or lead to the opinion of the child's purity. Much stress may be laid on the condition of the body, whether emaciated or not, also on the typical senile appearance. The facts which I have elicited show forcibly that the whole body of each and every child should be examined in the presence of a trained physician; to this there should be no exception whatever.

an impossible or impracticable procedure; nor do I think that there is any reason why, in a large institution, the care of which I have spoken, and which, I know, is somewhat minute, and requiring very considerable time and attention to detail, as well as great familiarity with the appearances of simple and specific lesions, cannot be exercised. I do not think that it is so intricate but that it can readily be used in all cases. I am aware that persons who advocate reforms very often suggest impracticable measures for their establishment, or, again, consider necessary thereto such sweeping changes that, being impossible, they fail in their object. I do not advocate any such measures. The suggestions which I make are entirely indicated by science, and called for urgently by the condition of affairs in these institutions, and, when once put into operation, I am convinced that the extra amount of care and work involved would not be irksome. At any rate, it is conclusively seen that under the existing rules of management, syphilis is very liable to be transmitted to the women who nurse more than one child; consequently the authorities and medical boards of these institutions cannot shut their eyes to the danger, nor with the evidence before them of the fact which I have given, can they say that the present appeal for more care in management is a visionary dream of an alarmist, for I have stated only what I know to be true, and I think that I have not magnified the danger. In other countries this same accident has happened, and I judge that it is now provided against and the reform has been in each instance due to the plain published statement of facts by a medical man. I am not positive that the case of syphilis which I have reported is the only one produced by these two children, for I have learned that they were assigned each to a nurse in the suburban hospital. Not being able to trace these women, I am unable to state the result, but that the children were assigned to them is one which adds weight and force to what I have already stated.

I am disposed to think that strong objections will be made to the suggestion that infants, about whom there is a serious doubt of their being syphilitic, should be fed by the bottle, and that this part of the plan of reform will be looked upon with less favor than will be the suggestions for their regular and systematic examination.[1] I am an advocate of the plan of nursing children by the breast. I fully recognize the great advantage resulting from it, and I think that the plan adopted in these institutions by which motherless children are breast-fed, is a wise and beneficial one; but I think that I have shown a weak part of this general plan which requires modification of the whole. It will be urged that children having severe affections of the mouth are usually weak and debilitated, and that they particularly need human milk, and will not thrive, and that some may even die if they are bottle-fed. Still against this fact we have that of the dangers of syphilis to the nurse, and of its transmission in some cases to others. In France this difficulty is met by nursing such children by goats and goats' milk. This plan is perhaps adopted on account of the immunity which animals are said to possess to the syphilitic virus. I am unaware of the measure of success thus obtained, and I make the suggestion as it occurred to me, that in suburban branches of these hospitals many of these animals may be kept, and thus used at very little expense.

These, then, are the circumstances and dangers of syphilitic contagion between nursling infants and nurses, and it may be well here to remark that, in private practice, instances will be met with in which women become syphilitic by nursing an infected child with syphilitic buccal lesions. I have seen two such cases in which I traced the contagion clearly. One of these I report in the October, 1875, issue of the Archives of Dermatology, in an article on Syphilitic Chancres of the Breast. It is important that every practitioner should bear this fact in mind, as by so doing he may prevent the transmission of syphilis in many instances. It has often been a matter of surprise to me that this point has not been more forcibly and practically brought out in the text-books, as the danger induced is one which may befall any physician, or desolate any family.

---

[1] It should be taken into consideration that if the examinations of infants are made only by physicians in a very thorough manner, there will be even in large institutions not very many cases of mouth lesions in which the doubt will be so great as to require the segregation of the child and its temporary artificial feeding. Of course this should only be done with care and caution, and the education and skill of the physician will be especially called into requisition. Should he not be thoroughly conversant with the affections of the mouth, which are so frequent in infants, he might carry his case and precautions so far as to put every infant with buccal trouble on the bottle. This need not be at all, for, as I have said, if care and skill are combined, the number of doubtful cases will be few. This greatly does away with the objection of bottle feeding.

The Dangers of the Transmission of Syphilis from Nurses to Nursing Children.

Let us now consider the dangers to which the community is liable from nurses with syphilitic chancres on the breast. It has been shown in the foregoing study, that nurses not infrequently have on their breasts syphilitic chancres. Not only may they become thus infected in infant hospitals (certainly in them by far the larger number of cases occur), but also they may thus become affected accidentally in the manner just pointed out. It is readily seen that these women may prove to be more or less extensively dangerous in proportion to the number of children to which they may happen to give the breast. Such nurses are very dangerous at two periods of their syphilis—first, in the period of incubation of their mammary chancre; second, in that state of development of the lesion in which it is as yet either an abrasion or a slight fissure or a small papule. When fully developed they usually, by their size and ulcerative tendency, prevent lactation, and attract such attention as leads to the discovery of their nature. Let us look at these points practically. After the deposit of the syphilitic virus on the woman's breast, a varying length of time elapses before the syphilitic chancre shows itself--called, as we have said before, the period of incubation. Now as there is in this person no perceptible morbid condition of the breast, the woman imagines herself healthy, and to a person unacquainted with the dangers of syphilis among this class, would undoubtedly be regarded as a proper nurse. This is well shown by the case of the woman McNally, who engaged herself in that capacity during the period of the incubation of her mammary chancre. Fortunately for the child nursed by her, she ceased to care for it a day or two prior to the development of her lesion, and thus it escaped syphilis. If, however, the woman had kept on as its wet nurse, or, again, if she had been employed a week later, when she regarded her lesion as of a trivial nature, this infant would undoubtedly have become syphilitic. This, then, opens to us a danger of great magnitude and of insidious nature, and suggests to us that too much care cannot be exercised in the selection of a wet nurse. In this period of the incubation of the chancre, no one, unless he is familiar with the children which have been nursed by the woman, can have any suspicion of her being on the verge of syphilis; consequently the only reliable means of ascertaining whether she will probably develop a mammary chancre later on, *is to inquire into the history of all children nursed by her within a period of two months.* If she has nursed infants which have died, it is necessary to ascertain beyond a doubt the cause of death, and to direct the examination very searchingly in the direction of lesions of the mouth, skin, and nose. Should the facts developed appear at all suspicious, such a nurse should not be employed to care for a healthy child until a period as long as that of the incubation of syphilis shall have elapsed. At the end of that time she can, if her breasts are normal, be regarded as healthy. Again, if the woman has at certain times nursed children temporarily, the same inquiries should be made as to their condition. This amount of necessary care and attention is not at all overdrawn, for the reason that we know that nurses are so liable to become infected, and that for a time their syphilitic chancres are of such a seemingly simple character as not to attract attention. I can well illustrate and confirm what I have here advanced by the case of the woman McNally. Suppose she, as many women do, had remained in the hospital for a much longer time than she did, and then, wishing to earn money, or for any other reason, had engaged herself as a permanent wet nurse, she would almost inevitably have transmitted syphilis to her new infant. If, in her incubation period, she only had been examined, and had no questions been asked as to her antecedent nursings, she would, being then strong, well-built, healthy, and without any blemish on the skin, have been regarded as a very fine wet nurse, indeed a more than ordinary one. The aspect of the case, however, was far different two months later. The practical conclusion, then, is this: that in taking wet nurses from these various institutions, and from agencies for such, there is a very grave danger that women in whose systems syphilis is then being developed will be employed; therefore the danger should be met in the manner I have suggested. The next point to be consid ered is the fact of the seemingly simple nature of the syphilitic lesion of the breast in its early stages.[1] Nursing women are so liable to have little ulcers, fissures, and abrasions, that usually they do not attract marked attention. Unfortunately the syphilitic lesion in its first stages resembles strikingly these simple affections; hence their danger may be unsuspected. This being the case, the doubt being so serious, all such cases should be watched for a long period with great care, and in the meantime no infant should be exposed to the risk. Of course if such a nurse was submitted to a physician for his judgment, he would, for the reasons given, pronounce it a doubtful case. These, then, are the dangers of syphilitic contagion which both nurses and children are liable to, and it will be seen that they are numerous and insidious. Considering the nature of the disease, and, under these circumstances especially, its danger of being propagated to many others—it being developed really, in many cases, in the midst of the family circle – our most watchful care is imperatively demanded, as private physicians, to prevent, as far as we can, all cases in our own practice, and, as members of infant hospitals, to be alive to the dangers which have been pointed out, and to use diligent and continual effort for their suppression.

125 E. 12TH ST., NEW YORK. Oct. 1st, 1875.

---

[1] See an article by me in the October number, 1875, of the Archives of Dermatology, entitled Clinical Features of Syphilitic Chancres of the Breast.

4

THE

ACTUAL CAUTERY

AND

Its Employment in Cutaneous Surgery

BY HENRY G. PIFFARD, M. D.,

PROFESSOR OF DERMATOLOGY, UNIVERSITY OF NEW YORK,
SURGEON TO THE CHARITY HOSPITAL, Etc.

[From the Charleston Medical Journal and Review, for January, 1877.]

CHARLESTON, S. C.
THE NEWS AND COURIER JOB PRESSES.
1876.

THE ACTUAL CAUTERY,

AND

ITS EMPLOYMENT IN CUTANEOUS SURGERY.

If the employment of a remedial agent, or method of treatment is attended with much inconvenience or expense, its general introduction and adoption is apt to be tardily accomplished, no matter how valuable the remedy or method may be. This is peculiarly true of the actual cautery. Passing by the time when the hot iron was used as a hæmostatic, anterior to the introduction of the ligature, we find that the actual cautery was principally confined to the following applications: First, the destruction of small vascular growths, as nævi upon the face, etc.; second, of cancerous growths upon the neck of the uterus; and third, as a means of counter-irritation over the larger joints when diseased, and along the spine in certain affections of the cord, etc. The practical difficulties in the way of a successful use of hot irons were mainly due to the fact that the metal began to cool, and to cool rapidly, the instant it was withdrawn from the fire, and consequently, if the operator desired to employ the heat at a particular temperature, he was obliged to manipulate with a rapidity that was inconsistent with proper care. The importance of maintaining and using a temperature appropriate to the particular operation on hand, must not be overlooked; a fact of which the following case affords an illustration: A young gentleman having suffered for some time from an intense neuralgia, and having tried various methods of treatment without relief, consulted an eminent physician of this city, who recommended that an iron heated to whiteness should be applied at a certain point in the course of the affected nerve, and sent the patient to a well known surgeon to have the operation performed. The latter applied the iron, not at a *white*, but at a dull barely red heat. The application was exceedingly painful, afforded very little if any relief to the neuralgia, and was followed by an extensive slough, and an ulcer, which for weeks had refused to heal. In this latter condition he came under my care, having been sent by the physician first alluded to. If now, *white* heat had been employed, the probabilities are that the operation would have been very much less painful, the slough would have been smaller, the ulcer would have cicatrized immediately, and the scar would possess far less of the retractile character which is displayed by cicatrices resulting from burns at a comparatively low temperature, as those from burning clothes or boiling water, the scars from which so often produce serious deformity. Now, the temperature of boiling water cannot exceed 212° F., and that of burning clothes may not be much greater, but white-hot iron or platinum possesses a temperature above 1000° F.; and experience shows that the effects will vary greatly with the degree of heat employed, a fact which must always be borne in mind in cautery operations. In certain operations a white heat is not desired, as a dull heat will better fulfill the special indications. We should therefore well consider the temperature best suited to the particular case, and should possess the means of maintaining and controlling it. The difficulty of accomplishing this with the blowpipe or furnace as the source of heat, greatly limits the use of the ordinary cautery irons.

Twenty years ago Middeldorff brought into prominent notice another method of generating heat for surgical purposes, namely by the aid of electricity.* By this means he obtained perfect control of the temperature, but the apparatus was expensive and cumbrous. The consequence was that galvano-cautery was rarely used, except imperatively demanded, and many useful applications of the method were neglected or replaced by less efficient means of treatment.

During the past year, however, the prominent objections to the employment of the actual cautery have been dissipated by the invention of three wonderfully efficient and convenient galvano-cautery batteries of American construction. I allude to the recently patented instruments of Drs. Dawson and Byrne, and to the one (not patented) made by the Galvano-Faradic Manufacturing Company of this city.† In addition, a cheap cautery instrument, (not a battery) capable of fulfilling many of the requirements of actual cauterization, has been recently invented by Dr. Paquelin, of Paris. Dr. Allan McL. Hamilton, of this city, has also recently revived and improved an old cautery instrument, the origin of which I am unacquainted with. It will do about the same work as the Paquelin cautery, and is cheaper. Finally, the solar cautery, a lens four inches in diameter, and six inches focus, must not be forgotten.

With convenient, efficient and cheap instruments, there is no longer any excuse for neglecting the actual cautery when indicacated; and there is no doubt but that its useful applications will rapidly multiply. Having for several years been satisfied of the advantages to be derived from the actual cautery in proper cases, I have been enabled, since the advent of convenient instruments, to employ it somewhat extensively in connection with the treatment of certain cutaneous affections; in part, repeating the operations of others, and, in part, devising fresh applications of the method. The principal affections of the skin in which it has been found of service will be mentioned below.

---

* Middeldorff did not discover this method, as it had been in use to a limited extent before him. He was the first, however, to give it much prominence.

† These three instruments are in every way superior to anything of the sort manufactured abroad. They are likewise much cheaper than the less efficient instruments of two years ago.

Rosacea.—In the *second* stage of this affection we frequently find the veins of the nose, more especially those of the alae, greatly distended, and more or less varicose. An important step in the treatment of this affection is obliteration of these enlarged veins. This may be effected in various ways; by division of the veins with a suitable cutting instrument; by injection of coagulating substances, or by the actual cautery. This latter may be accomplished with a platinum wire heated by a spirit lamp, or better by means of a small battery. For this little operation the two cells of an ordinary induction machine will generate sufficient heat, provided a quite fine wire is used. The vessel to be operated upon should be just touched with the wire heated to whiteness. The result will be obliteration of the vessel, reduction of a good deal of the congestion and infiltration around it, and ultimately a minute punctate scar, the size of which will depend upon the care and delicacy with which the operation is performed. In the *third* stage of this affection, characterized as it is by great hypertrophy of the parts, the actual cautery has been satisfactorily employed by RICHET.* In this case the heated wire should penetrate the whole depth of the thickened integument at several points. The result will be shrinkage of the parts and lessened deformity.

Varicose Veins.—I have in several instances secured obliteration of enlarged veins of the lower extremity by bringing the white hot platinum (heated by electricity) *almost* in contact with the vein. The platinum should not quite touch the skin, and should be held in position for a minute or more. The immediate result will be a blister upon the surface, and ultimately obliteration of the lumen of the vessel, and a pigment spot, more or less permanent, upon the integument.

Angioma.—I here refer to the little blood-red vascular elevations, whose size rarely exceeds that of the head of a match. They are frequently, in fact generally, multiple, existing upon the face and elsewhere to the number, sometimes, of twenty or thirty. A fine wire well heated is the neatest and quickest method of disposing of them.

Nævus Vascularis.—The purely superficial capillary nævus (wine-mark) if quite small, may very properly be treated by the galvano-cautery, delicately applied. The solar cautery has also given good results in the same. Extensive "wine-marks," however, demand other treatment; Squire's scarification method being probably the best. If the nævus, instead of being purely capillary and superficial, is composed of vessels of some size, and is located in the subcutaneous tissues as well as the skin, or if it projects above the surface, actual cautery is an effective method of treatment, whatever be the size of the lesion. These nævi are usually treated by injection, ligature, electro-puncture (electrolysis so-called), caustics (potasa fusa, etc.,), or actual cautery. If cautery is selected, the instrument should be heated to a *red* heat only, introduced and kept in *situ* some little time. If *white* heat were employed there would be considerable danger of hemorrhage. If the instrument is inserted perpendicular to the surface of the nævus, a cicatrix corresponding to each puncture will result. When, however, the nævus is considerably elevated, the best way of operating in my judgment, is to make a small incision or puncture with a scalpel, just through the skin at the edge of the nævus, then introduce galvano-cautery wire cold, close the battery circuit, and let the wire heat gradually, taking care that no more heat is employed than would suffice to redden the wire in the open air. When this is attained open the circuit and carefully withdraw the wire. By this method of operating there will result coagulation of the blood and destruction of the vessels to a considerable extent around the wire, and very little risk of hemorrhage. The skin outside the nævus should be protected at the point of puncture by means of asbestos. In general, however, I think electro-puncture (with the positive needle only) preferable to cauterization in the treatment of nævus, as when properly performed less scarring results.

---

* L'Ignipuncture, etc., par TRAPENARD. Paris, 1873.

Lupus.—In the severer forms of tubercular, ulcerative and rodent lupus there can be no question that actual cauterization (where excision is impracticable) is the most satisfactory method of treatment, and is to be altogether preferred to the potential caustics. In several of these cases the results have been extremely gratifying. There is, however, another form of lupus, called by KAPOSI, the orbicular variety of erythematous lupus, which in an advanced condition is characterized by a ring of infiltrated tissue, enclosing a portion of skin, reddened and perhaps thinned, but not accompanied with ulceration. The tendency of the affection is to extend centrifugally, and to result in atrophy of the portions of tissue involved. The therapeutic indication is to check the extension of the lesion. This may be effected by applying a fine white-hot wire along the outer edge of the infiltration, and burning through the whole depth of the skin; the resulting circular cicatrix will form a barrier across which the lupous infiltration will not extend, and the final result will be a white depressed scar corresponding to the whole of the surface that has been invaded by the disease.

Epithelioma and Cancroid.—Epithelioma of the lower lip, when the lesion is exuberant and forms more or less of a tumor, is most conveniently removed by excision; but when the lesion is ulcerative and depressed, and without much peripheral infiltration, the actual cautery white-hot appears to me preferable. In treating cancer and lupus in this way the cauterization must be thorough; mere scorching of the parts will not answer. The diseased tumor must be *destroyed*, otherwise the cautery will act as a stimulant; and upon the shedding of the very superficial slough, morbid action will be renewed, and the patient be injured rather than benefited by the operation.

Ulcers.—I have on several occasions beneficially modified indolent and ill-conditioned ulcers by cauterization at a white head.

Chancroids.—It is in this affection especially that the actual cautery has given me remarkably good results. One good white-hot cauterization being sufficient to destroy the virulent properties of the sore, and upon fall of the slough to leave behind a granulating ulcer with tendency to heal. This method materially shortens the time of treatment, as I have elsewhere shown.* A. Paquelin's, or Hamilton's cautery, will be found very convenient, and in some respects better than the galvano-cautery, in the treatment of these lesions. A few experiments satisfied me that the indurated *chancre* is not beneficially influenced by the cautery.

Venereal Warts.—The most effectual treatment of these is to snip them off with scissors, and to touch the bleeding bases with the red-hot wire. This stops the hemorrhage, and effectually prevents the return of the original trouble.

Pediculated Tumors of the Skin.—AMUSSAT† has several times removed pediculated tumors from the skin, by means of the galvano-caustic loop or knife. The only object of using the cautery in cases of this sort is the avoidance of hemorrhage, or of *sepsis* in a crowded hospital ward, otherwise cold steel would be preferable. Personally I have removed but two pediculated tumors by cautery. One was a lobulated tumor the size of a pigeon's egg, removed from the right labium majus, and the other was an enlarged *preputium clitoridis*, which after removal was found to weigh between six and seven ounces.‡

Circumcision and division of the prepuce in the medio-dorsal line have occasionally been effected with the cautery loop or knife, but not by myself, as I have not yet met with a case in which the operation appeared justifiable. I can conceive, however, of its being suitable and proper, if circumcision is imperatively demanded in the presence of a sub-preputial chancroid, the latter being also thoroughly cauterized at the same time.

---

* Archives of Clinical Surgery, November, 1876.

† Memoires sur la Galvano-Caustique Thermique. Paris, 1876.

‡ The case is reported in the American Journal of Obstetrics, August, 1876.

In making delicate applications where but small points only are to be touched with the glowing metal, the eyes of the operator should be guarded with blue glass spectacles, otherwise the intense glare will prevent a distinct view of the point to which the application is to be made. In using the solar cautery, this is specially important.

The above are the principal applications of the cautery in cutaneous surgery, as yet developed, and the present article is intended to be suggestive rather than exhaustive. The increasing employment of the actual cautery in general medicine, surgery, and gynæcology, is due in part to the increased facilities for its use, and in part to a growing belief in the truth of "Hippocrates's last aphorism," a latin translation of which is here appended. "Quæ medicamenta non sanant, ea ferrum sanat. Quæ ferrum non sanat, ea ignis sanat. Quæ vero ignis non sanat, ea insanabilia reputare oportet."

Dr E H M Sell
107 W 45th
NY

/ð

ON THE

TREATMENT OF CHANCROIDS

BY THE

ACTUAL CAUTERY,

BY

HENRY G. PIFFARD, M. D.,

Professor of Dermatology, University of New York; Surgeon to the Charity
Hospital, etc.

(Reprinted from the Archives of Clinical Surgery, November, 1876.)

NEW YORK:
RUTLEDGE & CO., PUBLISHERS, 102 WEST FORTY-NINTH STREET,
1876.

ON THE
TREATMENT OF CHANCROIDS BY ACTUAL CAUTERY.

BY

HENRY G. PIFFARD, M. D.,

Professor of Dermatology, University of New York; Surgeon to the Charity Hospital, etc.

◆

I believe that the best way of effecting a speedy cure of chancroids is to use a caustic sufficiently powerful to destroy at a blow all of the diseased tissue, so that, when the slough separates, it will leave behind it a healthy ulcer with a tendency to heal.

The methods usually adopted include the employment of cauterizations with nitrate of silver, nitric acid, etc., followed by simple dressings, or applications of iodoform. When treated in this manner, however, we too frequently find, upon the fall of the very superficial slough, that chancroidal action is renewed, and a fresh cauterization is required. This induced me, early in the present year, to experiment with a stronger caustic than those generally employed, namely, the nitrate of zinc. The admirable results which this agent is capable of affording in these lesions have been detailed elsewhere. (*New Remedies*, March, 1876.) Believing that they were due to the more powerful action, and deeper slough caused by the nitrate of zinc, it appeared to me probable that if the *actual* were substituted for the *potential* cautery, still better results would be obtained.

The first case (not included in the following table,) which I treated with the actual cautery, was a young man in my ward at the Charity Hospital, who had a chancroid of about two weeks' standing, situated at, and completely surrounding, the meatus. A short piece of platinum wire bent upon itself, and heated by means of a small cautery battery, was applied to every portion of the surface of the sore. A few drops of carron oil were then applied, and renewed when necessary. In three days the slough separated, and in four more the ulcer was entirely healed. This prompt result led me to make further trial upon cases in my wards, notes of which were kept by Dr. Abraham Mayer, House Surgeon, and from which I have arranged the following table:

	NUMBER OF CHANCROIDS.	DURATION OF LESION.	TIME FROM APPLICATION OF THE CAUTERY TO HEALING OF THE SORE.
I. S. M'C. (female)	1	10 months,	51 days.
II. C. N. (male)	2	several months,	10 "
III. A. B. (female)	3	10 days,	16 "
IV. M. B. "	1	not noted,	16 "
V. H. "	15	recent.	All healed in seven days except two, which healed later; time not stated.
VI. P. (male)	1	not noted,	18 days.
VII. L. "	1	one week,	7 "

Excluding the chronic chancroid Case I, and two of the chancroids in Case V, the healing time of which is not given, the average time required was nine and a-half days. Including Case I increases the average to eleven and a-half days. In addition to the cases above noted, I have treated quite a number of chancroids in dispensary and private practice in the same manner, and with equal satisfaction.

The application of the actual cautery at a white heat is not much more painful than nitric acid, and the pain ceases as soon as the cautery is removed and oil applied. In the men, therefore, I did not use an anæsthetic, but ether was given to the women, as they would not keep quiet otherwise. In private practice, nitrous oxide is preferable.

In order to compare the results of the actual cautery with those obtained by the ordinary methods in vogue at the Charity Hospital, Dr. Franklin Townsend made a careful analysis of the cases of chancroid treated in the Hospital during the year 1875, and has furnished me with the following summary:

	MALES.	FEMALES.	TOTAL.
Number of Chancroids treated in Charity Hospital in 1875,	212	159	376
Average number of days under treatment,	$25\frac{145}{212}$	$35\frac{97}{159}$	

CLINICAL OBSERVATIONS

ON

A Case of Cephalic Chancroidal Ulceration, resulting from accidental Auto-Inoculation.

BY

R. W. TAYLOR, M.D.,
SURGEON TO THE NEW YORK DISPENSARY, DEPARTMENT OF VENEREAL AND SKIN DISEASES.

REPRINTED FROM
Dr. Brown-Sequard's Archives of Scientific and Practical Medicine.
No. 5, 1873.

◆

NEW YORK:
G. P. PUTNAM'S SONS,
TWENTY-THIRD ST. AND FOURTH AVE.
1873.

II.

CLINICAL OBSERVATIONS ON A CASE OF CEPHALIC CHANCROIDAL ULCERATION RESULTING FROM ACCIDENTAL AUTO-INOCULATION.

BY

R. W. TAYLOR, M.D.,

SURGEON TO THE NEW YORK DISPENSARY, DEPARTMENT OF VENEREAL AND SKIN DISEASES.

THE recent publication, by M. Diday, of a case of cephalic chancroid has suggested to me the propriety of publishing the notes of a case which occurred in my service at the New York Dispensary several years ago. In doing so, I wish to add one more clinical case to the few authentic ones now reported, and also to call attention to the bearing of the case upon a theory which is entertained regarding this variety of extra-genital chancroid. It is, I suppose, to-day a quite well-known fact, that the existence of cephalic chancroids was formerly denied, but that the evidence, chiefly of experimental inoculations and that of a few undoubted cases in clinical practice of the occurrence of chancroidal ulcers on this site, proved conclusively that such a view was false and untenable. The theory, then, of an absolute immunity of the cephalic region, of course, had to be discarded, yet in consequence of the smallness in number of undoubted cephalic chancroids in clinical practice, and of the fact that auto-inoculations on that region were not attended with such positive results as when practised elsewhere, the theory of a partial immunity was propounded to explain these facts. This theory is now entertained by several authorities, and I think that there is an impression in the minds of most medical men that there is more or less of truth in it.

Not only is my case of clinical interest, in the facts of its rarity and of its calling attention again to the existence of a virulent ulcer on an important region, but also in the evidence which it carries with it against this theory of the partial immunity of the tissues of the head to the action of the chancroidal virus. While the results of chancroidal inoculations about the head have been very numerous, the number of undoubtedly reliable reported clinical cases is limited to four. As corollaries to my case, I have thought it interesting to give the chief points of these four reliable cases, as from a perusal of the five a tolerably fair estimate can be formed of the present state of this once disputed point in syphilology.

William Meehan, age 35, Irish, laborer, came to the New York Dispensary, January 7th, 1870, desiring to be treated for chancres. Upon examination I found that patient had an unusually long prepuce, which was much contracted at its end. Around its margin I saw five small chancroidal sores, and from between the prepuce and glans a copious rusty-colored pus escaped. The glans penis appeared somewhat reddened, but the man did not experience pain in urinating. From his statement I learned that he had always had difficulty in retracting the foreskin, and that he sometimes experienced a smarting sensation about the head of the penis. The contagion began, as nearly as I could ascertain, two weeks previously, the patient having been with a woman a few days before. His attention was called to an unusual condition of the penis, by a discharge, and this prompted his examination of the glans, which revealed the fact to him that he had a chancre. In a day or two after the small chancroids on the free margin of the prepuce appeared, and he then sought my advice. I endeavored to retract the foreskin, in order to make suitable application to the hidden ulcer, but the pain produced in the visible chancroids, and the fear of tearing the parts, as they were somewhat œdematous, suggested to me the propriety of using subpreputial injections and a slightly stimulating wash to the extra-preputial chancroids. I ordered for the patient a solution of carbolic acid, having provided him with a syringe, and having shown him how to use it. I felt somewhat doubtful as to whether my directions would be carried out, as the patient was a careless and uncleanly person.

January 10.—Ulcers on margin have not increased materially. Slightly less œdema of prepuce and less pus escaping. Unable to uncover glans.

January 12.—Similar condition. To-day increased strength of injection from ʒ i. carbolic acid to ℥ viij. to ʒ iss. of acid. Same lotion to be applied on a little pledget of lint in the preputial orifice as before.

January 14.—Somewhat improved.

January 19.—Returns after an absence of five days, with evidences of no material improvement. I noticed to-day an unusual state of affairs over his left eye. Directly over the outer margin of the left supra-orbital ridge, upon which the eyebrows are not developed, and running up to the median line along the ridge, and in this position among the eyebrows, I noticed a thick greenish-brown crust, which was about half an inch in width and an inch and a half in length. In direct continuity with this thick crust, and extending nearly to the median line, was quite a number of smaller and thinner crusts which were somewhat lighter in appearance. Around the large crust, the integument was very red for the space of half an inch, and around the smaller crusts was a similar red areola. There was no escape of pus from beneath any of the crusts. The left eye was entirely closed in consequence of the very extensive and active œdema of the upper lid. When I elevated this lid, I saw on its conjunctival surface shreds of a thin fibrinous membrane which resembled somewhat the croupal or diphtheritic membranes observed in this situation. The palpebral conjunctiva was intensely red and thickened; the ocular membrane was not so much inflamed. There was not to be observed any very copious secretion from the eye, and I thought it was serous in its character rather than purulent. From the intensity of the morbid processes, I was con vinced that it was more than an ordinary inflammation. Upon questioning the man, I learned that on the 15th of January, while ascending a ladder, carrying a hod on his shoulder, he had stumbled and struck his forehead very violently against one of the higher rungs. The wound had bled quite freely at first and received no other attention than the application of a handkerchief bound around the head. He noticed that on the next day he experienced a smarting sensation in it and that his eyelid swelled. The swelling continued until it closed the eye, and the smarting sensation became worse. Such were the appearances observed and facts elicited on the fourth day after the accident.

As I knew the man's uncleanly habits, and that there was a copious discharge from his chancroids, I felt certain that the unusually active condition of the ulceration of the wound on the brow was due to the fact of his having inoculated it with chancroidal pus. By means of applications of water I was enabled to remove the crusts, detaching those on the hairy part of the brow by cutting the hairs which held them. This being accomplished, I saw an ulcerated surface, presenting typical chancroidal appearances, and covered with a quantity of pus. The undermining of the edges was very noticeable. The ulceration at the outer angle of the ridge was of a depth of fully half an inch, and it became more shallow as it reached the median line, towards which, on the spots which had been mere abrasions of the epidermis, the ulcerations were superficial yet characteristic. There were evidences of rapid destruction of tissue, particularly in that portion in which the wound had extended through the whole thickness of the skin nearly to the bone. In order that I might verify my suspicions, I made an inoculation with a lancet charged with some of the pus of the ulcer, on a spot on the abdomen on a line with and three inches to the right of the umbilicus, which I covered over with a pad of lint three inches in each diameter, and strapped on with strips of adhesive plaster. I took this precaution for fear my puncture would perchance be inoculated by the pus from the penis. This inoculation being made, I very thoroughly absorbed all pus from the surface of the ulcerated wound, and then, in an equally thorough manner, I cauterized the whole surface with fuming nitric acid. After the eschar was, to my mind, thoroughly made, I filled in the deeper ulcer, and covered the superficial one with finely-picked lint, saturated in a solution of carbolic acid, eight grains to the ounce; and over that, so as to cover the whole eye, I placed a pad of lint, saturated with cold water, which I ordered to be immersed in the same fluid, and applied very frequently. I would say that I had previously well irrigated the eye with a solution containing sulphate of zinc one grain, sulphate morphine half a grain to the ounce of water. This having been done, I ordered the man to call at my office on the following day.

January 20.—Perhaps less swelling of the lid, certainly less uneasiness. Dressing removed, showing an eschared surface. No pus. Less injection of conjunctiva. Some of the shreds of membrane have come away. Repetition of dressings and applications.

Jan. 21 and 22.—Same condition; same dressing.

Jan. 23.—Pad of lint removed from the inoculation. There is a well-marked pustule half a line in height, one line and a half in area, surrounded with an inflammatory areola. A sensation of itching is experienced. Pustule ruptured with a bistoury, and an undermined ulcer is seen. Very carefully cauterized with fuming nitric acid, after which same dressing applied as is used for the brow.

Jan. 24.—Eschar above the eye sloughed off, leaving healthy ulcerating surface. The injection and thickening of conjunctiva have nearly passed away. Œdema has so much subsided that patient can see a little with left eye. Ulcer dressed with same solution.

Feb. 3.—Ulcer on eye healing, the one on abdomen also. To-day was shown to the class of the College of Physicians and Surgeons. The chancroids on penis are *in statu quo*, owing to neglect of the patient.

Feb. 9.—Both of the ulcers are nearly healed; patient has been able to see with left eye for about a fortnight.

Feb. 23.—Ulcers healed. Chancroidal phymosis greatly improved.

March 3.—Patient has attended quite regularly since, and to-day chancroids upon penis are entirely healed, but owing to œdema, which remains, the glans is exposed with difficulty. The site of the ulcer on the brow is now covered by a slightly red cicatrix, having no induration whatever; the ganglia and glands about the head are not, nor have they been at any time, enlarged. On the abdomen a very small red spot has been left by the auto-inoculation.

I took occasion to see this man a month later, and no syphilitic manifestations had shown themselves, though, of course, they were not to be expected. Upon inquiring into his history I found that he never had had syphilis.

Diday's[*] case, which is the second he has reported, his first being doubtful, was that of a young girl, aged fifteen and a half years, who was brought to him by her mother on the eleventh of April, 1872. The girl, whose hymen was intact, had on the right labium majus a number of chancroidal ulcers and also complained of ulcers in her mouth. On examination Diday found one ulcer on the inner aspect of the lower lip and the other on the mucous membrane of the left anterior pillar of the fauces, both of which he felt positive were chancroids. In order to render the diagnosis positive he sought the opinion of M. Rollet, who concurred with him fully. Information as to the origin of the ulcers could not be obtained, and auto-inoculation produced negative results. In spite of this both observers feel confident of the correctness of their diagnosis.

Puche's[†] case is regarded by Fournier as nearly unassailable. A man aged twenty-eight years was admitted into the Hôpital du Midi, service of M. Puche, November 17, 1861. Upon the integument of his lower lip, towards the median line, was a circular ulcer, presenting all the appearances of a chancroid. It had then existed thirty-four days, having appeared eight days after an unnatural intercourse. A few days afterwards a slight submaxillary adenitis was noticed. On the 18th an inoculation was made by M. Puche on the abdomen with some of the pus of the ulcer, during which operation the finger of the patient was pricked by the lancet in the act of pulling away the hand of the operator. In a few days similar ulcers to that on the lip were developed on the punctured points. The ulcer on the lip healed in December and left no induration, and though seen nearly three months after the commencement of the lesion on the lip, no constitutional manifestations of syphilis were to be seen on the man's body.

The third case is that of Rofeta;[‡] it was a serpiginous chancroid on the face from which the observer inoculated the patient successfully in five places. Syphilis did not follow.

---

[*] Observation de chancrelle de la bouche. Annales de Dermatologie et de Syphiligraphie. No. 2, 1873.

[†] Art. Chancre Simple, par A. Fournier. Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques. Tome Septième, page 67. Paris, 1867.

[‡] Gazette Méd. de Lyon. June 9, 1867. Quoted by Bumstead.

*Labarthe's case is that of a man aged twenty-nine, having three chancroids, which had appeared four days after coitus: one which had destroyed a part of the frænum, and two others in the furrow behind the glans and near the frænum. He also had a virulent adenitis of the right side, which, on the day he applied for treatment, was ready for incision. This operation was performed by Labarthe, who inserted into the cavity of the abscess a tampon of charpie, over which he placed a compress, and he fastened the whole on with a bandage, which he pinned on directly over the compress. On the fourth day after this his patient complained of a sore on his lower lip, which was situated longitudinally, and which had sharply-cut, slightly undermined edges, and a grayish floor which secreted pus. Suspecting the nature of the sore, Labarthe questioned the man as to whether he had touched his lip with his fingers after having touched his chancres. The patient answered in the negative, but on reflection he remembered that he had, when removing the dressings from his bubo, put the pin which held the compress in his mouth, but he hardly thought that that could have caused his sore. He consented to an auto-inoculation, which was followed by a positive result. The ulcer on the lip was not treated during a period of four days, and the author says that it increased in size.

It will be seen that we have here four instances in which chancroidal pus has developed its peculiar ulcers upon the cephalic region. The mode of contagion differs however in the various cases. Thus in Diday's case the circumstances are such as to leave us to infer that the ulcers were the direct result of an unnatural intercourse; the fact that the hymen was intact, is, I think, in support of this view. In Puche's case there is no doubt whatever of such an origin, as the patient admitted the fact. In my case the chancroidal ulcer was developed upon a wound by inoculation by the fingers soiled with the pus of the chancres. In this respect it is unique with the exception of Labarthe's case, as occurring on this region, but we have recorded cases of other extra-genital chancres due to similar auto-inoculations.

The clinical history of my case presents strong evidence of the fact that the ulcer resulting from the inoculation was of an actively destructive character. Thus after an existence of four days I find it showing decided tendency to rapid destruction, as judged of by the quantities of pus produced and of the markedly undermined condition of the edges of the ulcer, and of the intense congestion of the areola which surrounded it. Then, again, the fact that the eyelid and conjunctiva were so intensely inflamed, they both being involved by continuity of tissue and blood-supply rather than by the essential chancroidal process, clearly goes to show that the neighboring inflammation was very intense. The production of shreds of false

---

*_Le chancre simple chez l'Homme et chez la Femme._ Par M. le Docteur Paul Labarthe. Pages 61, 62, 63. Paris, 1873. This book has been published within a few weeks, consequently the case appears here for the first time in the English language.

membrane and a serous discharge from the conjunctivæ prove that the process was dissimilar from that of the ulcer, and suggest the opinion that the inflammatory action was attended by the effusion of fibrine and by cell proliferation rather than by molecular destruction.

The details of this case, then, very conclusively prove that there was no immunity whatever in the integument of the head of this patient to the action of chancroidal pus, but that on the contrary it was involved in a destructive action fully as acute and severe as when any other similarly thick integument is involved. The occurrence of the copious œdema of the eyelid would not of itself prove such activity of ulceration, as the connective tissue there is so lax that large effusions readily occur. Observers who have made a large number of inoculations with chancroidal matter state that the ulcers have not been as large and active about the head as upon some other regions, and therefore they entertained the theory of the partial immunity of the tissues. But I am inclined to think they did not operate about the head as boldly as they did elsewhere, and that their punctures were not as deep and, perhaps, not as numerous as when practised on less important sites. The conclusion to be drawn from the facts observed in my case is, I think, that the size and depth of the wound have a material influence on the intensity of the destructive action, and is, of course, adverse to the theory that in the integument of the head there is a partial immunity to chancroidal ulceration. The records of Labarthe's case show that the ulcerative tendency was observed in it, but the author does not bring out the bearings of the case upon this point.

The general question of the greater or less immunity or liability of the integument to inflammation and ulcerative action is one so broad in its field, requiring as it does a consideration of local tissue tendency, of constitutional condition, and of various modifying influences, that want of space forbids me to do anything but merely allude to it now.

In this connection I have thought it worth while to append succinct notes of the various other cases which have, and are now by some regarded, or at least referred to, as genuine ones, of cephalic chancroid, all of which are, to say the least, doubtful. By doing this, I place before the reader the essential points and facts of this clinical rarity.

Cases of MM. Boys de Loury et Costilhes (Recherches faites à Saint Lazare, *Gazette Médicale*, Paris, 1845), first, that of a woman having *chancres* on the genitals, and at the same time an irritation of the integument of the inner angle of the eye, resulting from conjunctivitis and epiphora. Owing to carelessness she is said to have inoculated this surface from the genital chancres in scratching, producing a chancre which was *indurated* (!).

Case second.—A woman having otorrhœa and slight excoriation of the meatus, inoculates this surface from chancres on the genitals (quoted by Clerc, *Traité pratique des mal. vén.* Paris, 1866).

Ricord's case (*Traité complet des maladies vénériennes; Clinique iconographique*, page 91, plate 21: Paris, 1862) is that of a young man having a supposed chancroid at the base of an incisor tooth of the upper gum, which he thought he contracted in sexual contact. Though at first regarded as authentic by Ricord, he later on considered the case doubtful, from the fact that he did not see the woman, the supposed source of contagion, nor had he verified his suspicions by auto-inoculation.

Venot's case was that of a person sent by the author to Ricord in Paris, having what was supposed to be a phagedenic soft chancre of the lip. At first regarded as a cephalic chancroid, it was later on pronounced by Ricord to be a form of lupus. Auto-inoculation was not practised. (*Leçons sur le chancre*, p. 16. Paris, 1860.)

Bassereau's case is incorrectly referred to as one of venereal chancroidal contagion upon the lip, but the truth is that the cases were six in number, and were successful inoculations upon the lips made by the author with the pus of soft chancres. (Buzenet: *Du chancre de la bouche, Thèse de Paris*, page 41–5; Paris, 1858.)

The details of Devergie's case were inaccessible to me, but it was pronounced to be unreliable.

Diday's first case was communicated in a letter to M. Fournier in 1856 (*Étude sur le chancre céphalique.* Paris, 1858). It was that of a young woman who had an ulceration of the lower lip, which presented the appearances and had the duration of an initial lesion. It lasted a month, was not indurated, did not cause an adenitis, nor was it followed by syphilitic manifestations. No information could be obtained as to its origin, nor was auto-inoculation practised.

Rollet refers to a case observed by Clerc, which, to my mind, is very unsatisfactory. A young woman consulted the latter for an affection of the heart. During the examination he noticed a cicatrix on her lower lip, which, she said, had followed an ulcer of two months' duration, which had not induced any adenitis, nor had it been followed by syphilis. During the existence of the ulcer, M. Demarquay regarded it as a chancre.

It is claimed by Rollet, Belhomme and Martin, and by Laroyenne, that Ricord's statistics of inoculations (*Traité des maladies vénériennes*, p. 525–526, Paris, 1838) go to prove that he himself must have met clinical cases of cephalic chancroid occurring on the lips and throat of men and women, for the reason that inoculations with the pus of these ulcers produced positive results ten times. There is a degree of probability in this statement, but as Ricord himself was not then familiar with the differentiation of the two kinds of chancres, and did not include the necessary details of the cases, they are of no clinical value now.

The details of the inoculations made by M. Puche, and, under his authority, by M. Nadau des Islets, are given in full in the thesis of the latter (*De l'inoculation du chancre mou à la region céphalique. Thèse de Paris*, 1858). Finally, Professor Hübbenet, of Kieff (Rollet's *Traité des maladies vénériennes*, page 87, Paris, 1865), publishes a case of chancroidal inoculation of the cheek which was successful, and was followed by a typical chancroidal bubo in the parotid region. I believe that complication has not been observed in any other case.

Labarthe (op. cit.) quotes an observation made by M. Millet (*Étude statistique sur les maladies vénériennes. Thèse de Paris*, 1866), as being authentic, which, however, lacks in its details some of the essentials of an undoubted case. It was that of a man, aged 38, whose medical history is not given, who was ill with a cold from the 13th to the 29th July, 1865. During this time he was confined to the house, and had no connection and had not seen a woman other than his mistress.

On the latter date he experienced a smarting sensation in his lower lip. On the 1st of August he applied at the Hôpital du Midi, and it was found that he had an ulcer having the appearances of a chancroid on the inner aspect of the lip, and a few similar small ones on the cutaneous surface. There was an enlarged submaxillary gland. The gums were healthy, except at the base of the teeth they were covered with a yellow coating. His teeth were discolored by smoking. He stated that his last sexual intercourse was on the 10th of July, which would be twenty days before. An inoculation was made on the abdomen, which resulted in a pustule of the size of a pea, which withered without treatment, as there is no record of any. The ulcer on the lip was cured by acidulated mouth-washes. The woman was not seen, but the man stated that she was healthy.

The criticism on the above is as follows:—There is no evidence whatever of a chancroid being the agent of contagion, as the woman was not examined, and the course of the ulcer, which was quite large, was readily influenced by mild measures, which would hardly have been the case had it been chancroidal, particularly as this part is so vascular. The incubation of the sore would not have been twenty days, a fact which excludes a chancroid. Then again, though a pustule was formed by inoculation, according to the reporter's statement no treatment was adopted, yet it withered, which would hardly have been the case had it been a chancroidal inoculation. It might be urged that it was an abortive chancroidal inoculation; if so, it is then wholly inconclusive, and should have been repeated. But the most vulnerable part of the case is the absence of the man's previous history. The fact is well known that, in syphilitic persons, early in their disease, the integument is very prone to ulceration when inoculated with almost any variety of pus, whether produced upon the patient or derived from another. Could not this case, then, be explained as follows:—A syphilitic man has a group of herpetic vesicles on the inner and outer aspect of the lip, which become ruptured; he smokes freely, and irritates these; they secrete pus; this pus is inoculated on him, and owing to the tendency of his skin to ulceration an ephemeral pustule is produced, the whole leading the experimenter to believe he has been dealing with a true chancroid. If this is not the truth of this case, pathological and clinical facts are in favor of such a probability; consequently the suggestion, which I believe is new, may prevent errors in conclusions in the future. I have several times been struck with the resemblance in appearance presented between ruptured herpetic vesicles on the lips, which have been irritated from any cause, and small chancroids early in their course. This fact I have also observed upon the penis. In deciding, then, upon any suspicious ulcerations on the mucous membranes of the mouth, I think it is well to bear in mind the possibilities of it being an herpetic vesicle which has been modified in appearance.

12

PSORIASIS:

ITS ETIOLOGY, RELATION TO RHEUMATIC DISEASE,

AND THE

RATIONALE OF A COGNATE TREATMENT.

BY

F. LE ROY SATTERLEE, M.D., PH.D.,

Professor of Chemistry, Materia Medica and Therapeutics in the N. Y. College of Dentistry;
Lecturer on Chemistry in the N. Y. College of Veterinary Surgeons; Surgeon to the N. Y.
Dispensary for Diseases of the Skin; Surgeon to the Northeastern Dispensary—
Department of Skin, Fevers and Rheumatism; Fellow of the New York
Academy of Medicine; Member of the N. Y. County Medical
Society, of the New York Dermatological Society,
etc., etc.. etc.

***This Paper was read before the New York Dermatological Society, May 20th,* 1873.**

NEW YORK:
POOLE & MACLAUCHLAN, PRINTERS.
205–213 EAST 12TH ST.
1873.

PSORIASIS:

ITS ETIOLOGY, RELATION TO RHEUMATIC DISEASE, AND THE RATIONALE OF A COGNATE TREATMENT.

To those of the profession who have battled with psoriasis, not only in severe exhibitions where major portions of the body are covered with this most obstinate eruption, but even where presented in more insignificant proportions, a sense of disappointment and impotency are not wanting in viewing the results of all treatment hitherto academically received and adopted.

It is needless to ask whether topical treatment with tar, green soap, oil of cade, blistering, carbolic acid or the like, and with internal arsenical medication, meets with other than temporarily suppressive or palliative results; thus seeming to evince that our treatment is at best an attack upon symptoms.

In the search for cause suggested by this dissatisfaction, it has occurred to the notice of Dr. Bence Jones, and been hinted by two or three other practitioners, that an identity or similarity of cause in psoriasis and in certain rheumatic affections was indicated, but nothing has been presented showing any extended following up or testing of the suggestion. While pursuing with interest this affection of the skin in private practice and in the N. Y. Dispensary for Diseases of the Skin, it fell also to my lot to deal with many rheumatic cases, especially in that department of the Northeastern Dispensary of this city. The success of the latest and most logical treatment of rheumatism confirming the most scientific theory of its cause, and the continued observation of psoriasis suggesting similar chemical actions, an inquiry of patients under the latter disease developed almost universally the precedence or concomitance of rheumatic exhibitions; or otherwise a rheumatic diathesis in the person or family, and the same characteristics in inheritance of tendency, persistency of continuance or recurrence in both diseases. It was with the satisfaction and encouragement in noting the confirmitory hints alluded to, of Bence Jones and others, that I commenced, some two years since, to test the similarity of physical conditions present in rheumatism and psoriasis, and to treat the latter disease on the theory of an identity of the *materies morbi*, and with results so uniform and permanent that I feel warranted in presenting the rationale and argument after citing a representative case, which fortunately gives necessary test conditions of long continuance, the fullest exhibition of severity and the prior treatment in the best colleges, dispensaries and asylums; thus insuring the most thorough and discreet employment on several occasions of present accepted treatment.

P. H., age 24, Irish; by occupation a porter. The psoriasis eruption broke out eleven years ago, progressing rapidly until the whole body, except the head and hands, was covered. Spots the size of an English shilling; very close to each other, always dry and scaly; worse in cold and damp weather. After five years they appeared on the hands and face also. *Family history:* healthy on the mother's side, as far as known; mother died of some bladder disease (probably calculous). Does not know about the family on the father's side; father was killed; several brothers and sisters had this eruption. *Antecedent history:* always moderate in habits; worked hard; very active. General functions, digestion, circulatory and respiratory symptoms normal; nervous temperament. Has had rheumatism, especially within later years. Seven years ago received treatment in Manchester, Eng.; internal medication for several weeks, with no effect, after which took medicine and applied salve as recommended by friends, or on his own suggestion, with no effect; nearly killed himself by the excessive use of senna and salts. In this country, first tried the homœopathic and hydropathic treatments, with no effect, except to wash off the scales by excessive bathing. After this he applied to the College of Physicians and Surgeons in this city, and was exhibited to the class as a typical case of psoriasis. Sent to the Strangers' Hospital, where he received the orthodox treatment; alkaline baths, green soap, and Fowler's solution, run up to very large doses per diem. After five weeks of this treatment, no improvement was noticed, as declared by the visiting physician. The same treatment more energetically tried, served only to slightly moderate the severity of the affection; after four months of this treatment he was discharged from the hospital *incurable*. He went back to work covered with the eruption. (I find at this time he suffered for two weeks with inflammatory rheumatism.) He then again tried the homœopathic treatment for three weeks, with no good results. Was sent to the N. Y. Dispensary for Diseases of the Skin, and came under my charge. He was at that time, eight months ago, completely covered with the disease, excepting the face and hands; the legs and arms one mass of eruption. I directed my internal treatment on the theory of an excess of uric acid in the system, which must be oxidized up to the point of urea; putting him on internal treatment, giving alkalies, and restricting the diet to vegetables and fruits and vegetable acids, forbidding meat, and using no external treatment except an occasional alkaline bath. Applied acetic acid externally to one or two inches of the eruption, merely as a placebo. The result manifested itself in three weeks, and from that time he gradually cleared off until in three months he was completely well, and had gained several pounds in weight during the treatment.

To demonstrate fully the theoretical basis of identity of cause and treatment, I may be permitted to allude to the chemical argument of the etiology of rheumatic affections, continuing its application to the morbific cause of psoriasis, previously alluded to as the abnormal amount of uric acid and its non-oxidation to the point of urea formation. In doing this, I use as far as possible the form of statement of the investigators of this diathesis, whose labors give us authority: "A vast class of diseases can be proved to be errors of chemical action—interferences caused either by want of regulation, or by the introduction from without, or by the generation within the body of substances that increase, diminish, or change the *oxidation* which is necessary for the working of the body." *

"The precise constitution of healthy blood is adjusted by the balance of the nutritive process for maintaining the several tissues, so that none of the materials appropriated for the maintenance of any part may remain in *excess* in the blood. Thus each part is in relation of an excretory organ to all the rest. For example, if the muscles did not take material for their nutrition, there might be an excess of fibrin and their other constituents in the blood; if the bones did not do so, the salts of lime might be in excess, and so on." †

Now, this balance may be destroyed, and there are two conditions most likely to have been the cause; a given constituent of the food in too great an excess; and conditions retarding the normal change of tissue, and thus preventing the appropriation of the new material to construct healthy blood. Accordingly experience shows that gout, rheumatism, and allied affections are met with in individuals addicted to an over-indulgence in nitrogenous diet and generous wines, combined with sedentary habits. These conditions are intimately associated with the presence of uric and oxalic acids in the blood, and their manifestations. That there is an excess of fibrin in the blood in cases of rheumatism, has been shown by the analyses of Alderson and others. It is apparent that in rheumatism fibrin is present in more than double the usual proportion. By still more recent investigation the difference is made even greater, as it has been ascertained the amount of fibrin in healthy blood is considerably less than 3 per cent.

Given, therefore, excessive indulgence in nitrogenous diet, accounting for excess of fibrin in the blood, and conditions which retard the transformation of effete tissue, what is likely to result? First, fibrin in excess in the blood will render the normal supply of atmospheric air for its required purposes in the economy, insufficient; while a sedentary life, independent of the foregoing, retards metamorphosis. Under these circumstances, it must follow, that if urea, carbonic acid, and ammonia represent the full oxidation of the proteids in the body, a compromise may be the result, and the production of intermediate compounds. "Under ordinary circumstances, when uric acid is formed, as it is in all warm-blooded animals, it must be further oxidized, or else, by its insolubility, it is deposited or combines with alkaline bases, producing calculous diseases."*

---

* Bence Jones.

† Kirke's Physiology.

Liebig observes that "when uric acid is subjected to the action of oxygen, it is first resolved into alloxan and urea; a *new supply* of oxygen acting on the alloxan causes it to resolve itself into oxalic acid and urea, or into oxaluric and parabanic acids, or into carbonic acid and urea."† The various excretions, as we know, are simply *removed* by the emunctories; and those excretions, it seems, must be in some *required* chemical condition, or they are imperfectly removed and otherwise remain as abnormal disturbants. The varied phases of disturbance in the vital economies produced by these abnormal conditions we can only perceive by observations of *results* and existing states; the molecular methods that determine the specific exhibitions of disease are as yet beyond our ken. What we *do* perceive is, that a certain state of *oxidation* is a prime necessity for elimination. Urea represents the oxidation more or less complete, of effete material, or of superfluous protein matter in the circulation.

If the oxidation of the proteids be not sufficiently complete, intermediate compounds are formed, and these constitute the materies morbi of certain diseases, such as rheumatism, etc. While uric acid may be a normal constituent of the urine, it should exist in but small quantity; hence the greater part of it is, in the system, raised, so to speak, by oxidation to urea. The kidneys do not, then, *form* urea; they merely remove it from the blood where it has been created by chemical changes.

---

* D. Campbell Black.

† Liebig's Animal Chemistry, p. 137.

Urea, carbonic acid, water, ammonia, etc., are the results of the ultimate oxidation of effete tissue—not by direct oxidation, but through a serious of chemical evolutions. In gout and rheumatism, with an excess of fibrin and uric acid in the blood, and excess of uric acid in the urine with sedentary and indulgent habits, we have affections of the white tissues, sheaths of muscles, aponeuroses, bursæ, capsular ligaments, pericardium and endocardium, and deposition of urate of soda in the joints, and we look for a deficient oxidation of effete tissue as the immediate cause of these affections. A theory corroborated by the opposite conditions which occur in the pyrexiæ, in which class of diseases there is *excessive* oxidation of tissue, as represented in excessive excretion of nitrogenous compounds from the body, and in the treatment of which we give such agents as counteract oxidation, viz.: quinine, arsenic, alcohol, etc.*

Another demonstration of these opposite states should, I think, be shown by the non-existence of rheumatism or psoriasis with consumption in the same subject, which my observation has so far indicated to me. Recapitulating our argument briefly, we have seen that certain habits of body tend to the undue accumulation of proteids in the blood; that they are absolutely in excess relatively to the wants of the system, and relatively to the amount of oxygen consumed; that urea, carbonic acid, and ammonia represent the full oxidation of proteids; and that when this process is imperfect, the formation of intermediate products must result. And that the morbific cause of gout, rheumatism, etc., are the result of the imperfect oxidation of effete tissue, a theory borne out by the treatment most successfully employed. "In gout and rheumatism, then, it is inferred theoretically, on the best possible grounds, and practically on the evidence of our senses, that there is an excess of uric acid circulating in the blood."† With this view of the cause of rheumatism, borne out by the results of its treatment, it has occurred to several observers that in some manner psoriasis seems to occur with the same abnormal physical conditions, and to be associated with the rheumatic diathesis, and being indicated as the result of a like cause, should be cured by similar treatment. Among those who have noticed this connection between rheumatism and psoriasis I would cite Dr. Begbie, who, after recounting the symptoms usually resulting from the uric acid diathesis, adds: "And there is a tendency to certain cutaneous diseases, such as psoriasis, in these patients." And Dr. W. R. Basham writes: "Psoriasis and some other eruptions are in some measure connected with the defective metamorphosis of uric acid; and the inference is still further strengthened by the well-known favorable results of an alkaline plan of treatment."[*] Speaking again of the theory of oxidation, he says: "The interpretation, moreover, is strictly in accordance with what the ablest chemists have recently established, namely the conversion, both in and out of the body, of uric acid, by the agency of oxidizing agents, into oxaluric acid, and ultimately into urea and oxalic acid. . . . . The action of alkaline salts, then, appears to be to facilitate the metamorphosis of uric acid and hasten its conversion into oxaluric acid, which, as oxalurate of ammonia or potash, is excreted in the urine, and which, after passing from the bladder, is quickly split up into oxalic acid and urea."[†][‡] If, then, we will regard psoriasis and rheumatism as produced by the same general cause or condition of the system—namely, the result of the metamorphosis of an excess of nitrogenous substances—our treatment is readily suggested. Decrease the amount of nitrogenous food taken into the body, by restricting the diet, and give such remedies as will promote oxidation, so that the excess of nitrogenous material may be oxidized up to the point where it is easily eliminated from the body. In a chemical point of view, the alkaline salts constitute the most important principles promoting oxidation; even vegetable acids are converted in the system into carbonates for this purpose. The alkalies do not neutralize the uric acid, as was at one time supposed; but

---

* D. Campbell Black.

† D. Campbell Black.

---

[*] Dr. Basham in *The Practitioner*. Nov., 1870.

[†] Dr. Basham.

[‡] Oxaluric acid ($C_6 H_3 N_2 O_7 + H O$) contains two atoms of oxalic acid ($2(C_2 O_3)$), and one atom of urea ($C_2 H_4 N_2 O_2$).

they prevent its formation to the extent which constitutes a materies morbi, by oxidizing it up to urea. Lemon-juice, of which the chief constituent is citric acid, has likewise been shown to possess remarkable therapeutic properties in these, as well as other affections. Large draughts of pure water act by oxidizing, the water being decomposed, its hydrogen contributing to form ammonia, and its oxygen urea. In this treatment the good effects are but slowly manifested. Two or three weeks sometimes pass before a change is noticed; then the eruption begins to pale and to scale less; this is followed by an improved general condition. The patient says that he feels better and stronger than he has done since the first appearance of the disease. The eruption takes a natural mode of subsidence, the spots changing into rings, by the appearance of healthy skin in the centre of each spot. These rings gradually break up into segments of circles, and then disappear, leaving a faint pinkish stain on the skin, which in turn vanishes. The smaller spots (guttata) also disappear, some leaving transitory stains, and others none at all. When the patient is entirely well of the eruption his general health is improved; he has often gained much in weight during the treatment; and I have yet to see a case where the disease has returned after the cessation of alkaline medicine, although I have maintained (but not so strictly as during the treatment) a general vegetable diet. Several times I have suspended the treatment, and allowed a return to a meat diet, with alcoholic stimulants, which was speedily followed by a retrogression in the cure. As psoriasis is essentially a chronic affection, coming on slowly and gradually, requiring sometimes many years to cover the body, we cannot, of course, expect to speedily eradicate the disease. By this treatment, from one to six months may often be necessary to produce the desired result.

13

CASE OF ACNE ROSACEA,

OR

HYPERTROPHICA.

OUTGROWTHS REMOVED

BY

OPERATION,

BY

CLINTON WAGNER, M. D.,

PHYSICIAN TO THE METROPOLITAN THROAT HOSPITAL, NEW YORK.

(Reprinted from the Archives of Clinical Surgery, July, 1876.)

NEW YORK:
RUTLEDGE & Co., PUBLISHERS, 102 WEST FORTY-NINTH STREET,
1876.

CONTRIBUTORS

TO THE

ARCHIVES OF CLINICAL SURGERY.

Cornelius R. Agnew,	New York.
D. Hayes Agnew,	Philadelphia.
Chas. M. Allin,	New York.
Herman Althof,	" "
Edmund Andrews,	Chicago.
Francis A. Ashford,	Washington.
John Ashhurst, Jr.,	Philadelphia.
Francis Bacon,	New Haven.
Fordyce Barker,	New York.
J. K. Barton,	Dublin.
Robert Battey,	Georgia.
Henry J. Bigelow,	Boston.
Clarence J. Blake,	"
Thos. S. Bond,	Chicago.
J. H. Brinton,	Philadelphia.
Freeman J. Bumstead,	New York.
J. H. Hobart Burge,	Brooklyn.
Samuel C. Busey,	Washington.
Wm. H. Byford,	Chicago.
James R. Chadwick,	Boston.
David W. Cheever,	"
J. J. Chisolm,	Baltimore.
J. Solis Cohen,	Philadelphia.
T. B. Curtis	Boston.
John T. Darby,	New York.
L. A. Duhring,	Philadelphia.
T. Dwight, Jr.,	Boston.
Louis Elsberg,	New York.
T. Addis Emmet,	" "
Paul F. Eve,	Nashville.
Geo. J. Fisher,	Sing Sing, N. Y.
A. Fournier,	Paris.
C. C. F. Gay,	Buffalo.
Geo. W. Gay	Boston.
Wm. Goodell,	Philadelphia.
J. W. S. Gouley,	New York.
J. Orne Green,	Boston.
F. H. Hamilton	New York.
Wm. A. Hammond,	" "
Chas. Heitzman	" "
Berkeley Hill	London.
R. M. Hodges,	Boston.
T. Holmes,	London.
Joseph W. Howe,	New York.
Ralph N. Isham,	Chicago.
J. Taber Johnson,	Washington.
W. W. Keen	Philadelphia.
Edward L. Keyes	New York.
A. F. A. King,	Washington.
James L. Little,	New York.
Morell Mackenzie,	London.
Erskine Mason,	New York.
J. Ewing Mears,	Philadelphia.
Julius F. Miner,	Buffalo.
E. M. Moore,	Rochester, N. Y.
Emil Noeggerath,	New York.
F. N. Otis,	" "
Montrose A. Pallen	" "
Williard Parker,	" "
Henry G. Piffard	" "
J. H. Pooley,	Columbus, O.
C. B. Porter,	Boston.
Alfred C. Post	New York.
C. P. Putnam,	Boston.
Robert Reyburn,	Washington.
D. B. St. John Roosa,	New York.
T. T. Sabine,	" "
Henry B. Sands,	" "
Lewis A. Sayre,	" "
J. Marion Sims,	" "
A. J. C. Skene,	Brooklyn.
Henry H. Smith	Philadelphia.
J. Lewis Smith,	New York.
Stephen Smith	" "
S. Fleet Speir,	Brooklyn.
D. M. Stimson,	New York.
Robert W. Taylor,	" "
Isaac E. Taylor	" "
J. S. Thebaud,	" "
Wm. Thomson	Philadelphia.
T. Gaillard Thomas,	New York.
J. H. Thompson,	Washington.
A. Voisin,	Paris.
Clinton Wagner,	New York.
Albert G. Walter,	Pittsburgh.
Samuel B. Ward,	Albany, N. Y.
Robert F. Weir,	New York.
Samuel Whitall,	" "
James C. White,	Boston.
James P. White	Buffalo.
E. Wigglesworth, Jr.,	Boston.
Jarvis S. Wight,	Brooklyn.
Henry W. Williams,	Boston.
James R. Wood,	New York.

and others.

CASE OF ACNE ROSACEA,

OR

HYPERTROPHICA.

OUTGROWTHS REMOVED

BY

OPERATION,

BY

CLINTON WAGNER, M. D.,
PHYSICIAN TO THE METROPOLITAN THROAT HOSPITAL, NEW YORK.

(Reprinted from the Archives of Clinical Surgery, July, 1876.)

NEW YORK:
RUTLEDGE & CO., PUBLISHERS, 102 WEST FORTY-NINTH STREET,
1876.

CASE OF ACNE ROSACEA,

OR HYPERTROPHICA.

OUTGROWTHS REMOVED BY OPERATION.

BY

CLINTON WAGNER, M. D.,

Physician to the Metropolitan Throat Hospital, New York.

◆

Case of W. M., aged fifty-three, native of Alsace, but since 1851 a resident of this country, short in stature, very stout and of full habit; occupation, wine merchant; has also followed the vocation of seaman, and during the rebellion served as lieutenant in a New York regiment; was admitted into the Metropolitan Throat Hospital, August 8, 1875; his nose was covered with growths as represented in Plate 1; livid in color; and cold, clammy, and greasy to the touch; the two largest attached respectively to the right and left ala were pedunculated, and interfered seriously with the act of taking food and drink. The others were sessile, the large one upon the ridge of the septum, broad and flattened. Neither the cartilages externally nor the mucous membrane internally were involved. He stated that small swellings or lumps first appeared upon his nose as far back as 1868. No increase in size was perceptible until 1872, when they began to enlarge and in a short time attained the volume they presented at the time of consulting me for treatment. He has been an habitual drinker for many years of the light claret and white wines of France, but not addicted to indulgence in spirituous liquors or beer.

In the operation for the removal of the tumors, the pedunculated ones were divided close to the cartilage. From the large one on the right ala copious hemorrhage ensued from quite a large vessel; it was readily controlled however by torsion. From the sessile growths slices were taken by elliptical incisions and the remainder of the hypertrophied tissue dissected out from under the surface of the infiltrated skin, care being taken to leave sufficient flap to cover the cartilage. The edges of the wounds were brought together by fine silk sutures, about fifteen being required. Under simple dressings rapid healing followed.

The portions removed weighed five hundred and ten grains. At the present time, nine months after the operation, there is no evidence of a return of the disease. Plate 2. The following observations upon the histology of this very rare form of Rosacea, together with the report of the microscopical examination of the growths removed from this case, are taken from Dr. Piffard's recent work on "Diseases of the Skin."

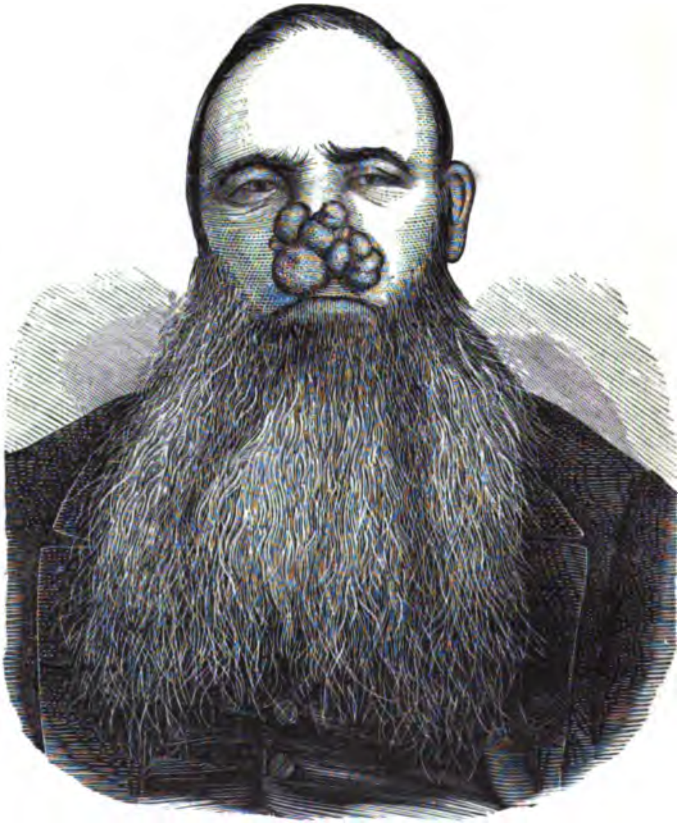


PLATE No. 1.

"HISTOLOGY.—The histological processes in Rosacea are probably the same as occur in chronic congestive and inflammatory states elsewhere. In the third stage, which alone I have had an opportunity of examining microscopically, I have found great thickening of the corium with development of new connective tissue and enlargement of the blood-vessels, principally the veins. The sebaceous glands were many of them enlarged, sharing with the other elements of the skin the common hypertrophic tendencies. They did not appear, however, to have undergone any qualitative changes, with the exception that some of them were filled with impacted sebum. Small cell infiltration occurred to a limited extent along the course of the vessels.

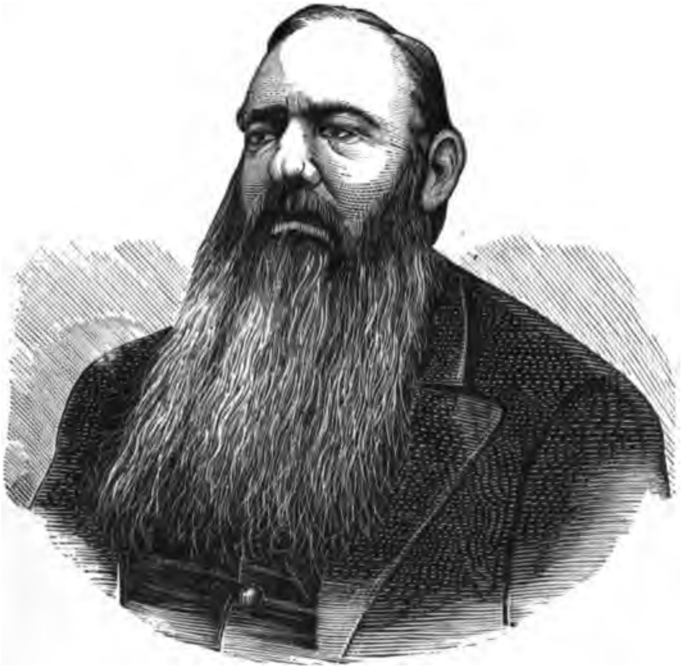


PLATE NO. 2.

In a specimen from a case of excessive enlargement referred to me by Dr. C. **WAGNER** for microscopical examination, in which the portions removed weighed about four hundred and forty grains, I found the following changes: The stratum corneum was exceedingly scant, consisting at most of but one or two layers, and in some parts entirely absent. The stratum Malpighii was very thick, with mostly large and well formed cells. In some parts, however, the nuclei were shrunken and deformed, or entirely absent, leaving vacuoles. The papillæ were enlarged in length and breadth, and contained many round and fusiform cells. The sebaceous glands were not much altered except that the nuclei of the cells were indistinct, and did not imbibe carmine readily. In many cases the nuclei were shriveled or absent. The margins of the cells were irregular. Some of the glands were normal, but the others were undergoing degenerative, not hyperplasic changes. The derma was very greatly thickened, but presented the aspect of an adult tissue, and not one in the course of formation. There were a few round and spindle cells, but immature connective tissue was not seen. The lesion, on the whole, appeared to be a pure hypertrophy of the dermal connective tissue, manifested by an increase in the number, but not in the size of its elements, with degeneration of the glands, probably from pressure."

A microscopical examination of the specimen was also made by Dr. E. B. Bronson, with the same result as obtained by Dr. Piffard.

The accompanying wood cuts are from photographs.

THE TREATMENT

OF THE

SCROFULIDES

(LUPUS.)

BY

HENRY G. PIFFARD, A.M., M.D.

REPRINTED FROM THE "PRACTITIONER," DECEMBER, 1875.

NEW YORK:
MACMILLAN & CO., PUBLISHERS,
21 ASTOR PLACE.
1876.

THE PRACTITIONER:

A JOURNAL OF THERAPEUTICS AND PUBLIC HEALTH.

Edited by T. LAUDER BRUNTON, M.D., F.R.S., Member of the Royal College of Physicians, Assistant Physician to St. Bartholomew's Hospital, and Lecturer on Materia Medica and Therapeutics in St. Bartholomew's Hospital School.

PRICE, $4.00 PER ANNUM, POST-FREE.

NOTICE.

The PRACTITIONER for January contains a MEMOIR of the late DR. ANSTIE, by DR. BUZZARD, with a PORTRAIT engraved on Steel by C. H. JEENS; also a GENERAL INDEX to Vols. 1 to 12 of this Journal.

In order to admit this Memoir without interfering with the usual contents of the Journal, this number contains 96 instead of 80 pages.

This number also contains the following Papers:—

On the Use of Liquor Bismuthi for Hæmorrhoids and Prolapsus Ani. By Prof. CLELAND, of Galway.
Report on the Treatment of Quinsy.
On the Physiological Action of Alcohol. By the EDITOR.
Arnica as a Local Application. By J. FAYRER, C.S.I., M. D.
REVIEWS.—A Practical Treatise on Diseases of the Eye. By Haynes Walton, F.R.C.S.—Lessons on Prescriptions and Prescribing. By W. Handsel Griffiths, Ph.D.—Commentary on the British Pharmacopœia. By Walter J. Smith, M.D.—Principes de Thérapeutique Générale. By Prof. J. B. Fonssagrives.—Journal of Anatomy and Physiology.
Clinic of the Month. Extracts from British and Foreign Journals. Notes and Queries. Bibliography.
THE NEW DEPARTMENT OF PUBLIC HEALTH.
The Heidelberg Pail-System of Filth Disposal.

ANNOUNCEMENTS FOR 1876.

The PRACTITIONER for 1876 will contain two new features. First—The Treatment adopted by practitioners throughout the country in various Diseases will be ascertained by means of circulars, and the results presented in a tabulated form, so that the reader may at once see the lines of treatment most generally followed, and compare them with the one he himself pursues. Circulars regarding Quinsy have been already sent out, and the results will appear in the January number.

Secondly—Our readers will have an opportunity of becoming better acquainted with the Treatment employed abroad, as several of the most distinguished Continental Physicians have obligingly consented to contribute original articles to THE PRACTITIONER. Among the Papers which will shortly appear may be mentioned:—

Unpublished Researches on Alcohol. By Dr. ANSTIE.
On the Nature of Fever. By Prof. BURDON SANDERSON.
On Febrifuges. By Prof. BINZ, of Bonn.
On Sunstroke. By J. FAYRER, C.S.I., M.D., &c., Hon. Physician to H.M. the Queen, Physician to H.R.H. the Prince of Wales and the Duke of Edinburgh.
On the Treatment of Syphilis. By Prof. SIGMUND, of Vienna.
On the Treatment of Headache and Constipation. By Dr. WINTERNITZ, Docent in the University of Vienna.

Papers will also appear on subjects of practical interest by Dr. VON ZIEMSSEN, Professor of Medicine in the University of Munich, and Dr. DUCHEK, Professor of Medicine in the University of Vienna.

In the Department of Public Health will appear a Paper on Cholera in Syria, by Prof. VON PETTENKOFER, of Munich; and on Contagion and Miasm, by Prof. STRICKER, of Vienna.

MACMILLAN & CO., LONDON,
And 21 ASTOR PLACE, NEW YORK.

THE TREATMENT

OF THE

SCROFULIDES (LUPUS).

BY HENRY G. PIFFARD, M. D.,

Professor of Dermatology, University of the City of New York, Surgeon to the Charity Hospital, etc.

BELIEVING that Lupus is essentially a scrofulous affection, I have adopted the nomenclature and classifiaction of HARDY, who arranges the different varieties as follows:

Erythematous Scrofulide.
Corneous "
Pustular "
Tubercular "
Phlegmonous "

For a graphic description of the clinical features of these affections, the reader is referred to HARDY's original memoir,[1] or to the writer's translation of the same.[2] Their histology I have recently considered elsewhere,[3] and shall devote the present paper to the question of their treatment.

The intractable nature of these affections, and the disfigurements which they frequently produce, invest this portion of their history with an intense practical interest, and lead me to present somewhat at length, the views of those who are able to speak advisedly upon the subject.

---

[1] Leçons sur la Scrofule et les Scrofulides, etc., Paris, 1864.

[2] *New York Medical Gazette*, Dec. 5th, 1868, *et seq.*

[3] *New York Medical Journal*, August, 1875.

The *internal* treatment should be that which is advisable in scrofula generally, and need not be considered in detail. Arsenic, though praised by some, has not appeared to me to influence the course of the disease in the slightest degree. Repeated and prolonged trials of both Fowler's and Donovan's solution (liq. hydrarg. et arsen. iodidi) have always caused me to regret the time lost in using them. The most appropriate internal treatment, however, is rarely, if ever, capable of removing the existing lesion, its sole office being, by bringing the general system into a more normal condition, to facilitate the action of external applications, and to diminish the chances of relapse, and it is to the *external* treatment, that we must mainly look for the cure of the affection.

If we remember that the natural tendency of these affections is to extend indefinitely, and almost invariably to leave cicatrices, the indications for treatment are perfectly plain; namely, to check the spread of the eruption, and to cure the existing lesion with the least possible scarring. The details of treatment will vary with the particular variety under notice, and will be considered in the order in which they have been given.

TREATMENT OF THE ERYTHEMATOUS AND CORNEOUS SCROFULIDES *(Lupus Erythematosus)*.—KAPOSI recommends frequent frictions with the *spts. saponatus kalinus*,[1] and states that he has thus caused the lesion to disappear with leaving the slightest trace. I have had the same happy result follow the use of glacial acetic acid applied bi- or tri-weekly. Both of these applications act superficially and without producing an eschar, and seem to effect their purpose by causing absorption. I have likewise had excellent results follow repeated and energetic frictions with the following:

---

[1] R

Saponis viridis, lb. ij.
Alcohol, lb. j.

M. Let it stand for twenty-four hours, filter and add spts. lavendulæ, oz. ij.

R

Saponis viridis, oz. viij.
Glycerini.
Olei cadini. aa. oz. ij.
Ol. rosarum. q.s.

M.

These preparations should be used in preference to stronger caustics, which, destroying tissue, would necessarily be followed by a cicatrix. The only objection to this treatment is the length of time required. In a few more fortunate instances a cure may result in a few weeks from twenty or thirty of the frictions, or applications of the acid, but commonly their use must be prolonged for several months. These means are admirably adapted to recent patches, and may result, as observed by KAPOSI and myself, in perfect cure. If, however, the eruption has already existed for some time, and portions of it, especially the central and older parts, begin to exhibit atrophic changes, it will be vain to hope for recovery without cicatrix. Under these circumstances the centre of the lesion may be left to take care of itself, and attention be confined to the periphery, that is, to the advancing border. If the preparations spoken of do not appear to act with sufficient vigor, the pure sapo viridis may be substituted for them, applied daily with friction, or spread upon a piece of linen, and left in contact with the parts for several hours. If the green soap cannot be readily obtained, a solution of caustic potassa, 25 per cent., to 50 per cent. may be used instead, applied once a week or at more distant intervals according to the effect produced. The acetic acid and sol. of potash are usually applied with a camel's-hair brush or a glass rod. Both of these methods, however, are objectionable, as they are apt to deliver an excess of the fluid, which runs over and injures healthy parts. A much better way is to employ a small hard-rubber probe around the end of which a little cotton-wool has been wrapped. Stronger caustics than these mentioned are rarely required, unless speedy destruction of the lesion is necessary; in which case *potassa cum calce* or chloride of zinc may be employed. When the lesion is small and its early extinction desired, I prefer removing it *(ægroto volente)* by excision.

DUBINI,[1] and more recently VOLKMANN,[2] prefer to remove the infiltration by means of hundreds of fine punctiform scarifications. These are made with a small sharp-pointed knife to the depth of two millimetres. The punctured spots should be covered with lint well pressed on, to stop the bleeding, and left attached until it falls spontaneously. The operation should be repeated in from two to four weeks, from three to eight operations being usually sufficient. VOLKMANN says that no scarring results from the treatment. I have had no personal experience with this method in the erythematous scrofulide, but have used a modification of it in the next variety.

TREATMENT OF THE PUSTULAR SCROFULIDE.—The local treatment of this variety is quite simple. As scarring is inevitable, we may attack the lesion with some vigor. If it be in an early stage, without much ulceration, I have had good results from linear scarifications, followed by green soap. When, however, there was considerable ulceration, it was formerly my custom to make a few superficial cauterizations with the liq. hydrarg. nitratis, followed by the application of a mercurial ointment (usually the protoiodide, ten grains to the ounce). Neligan[1] and Weisse[2] have used with advantage the acetate of zinc. In this way the ulceration may sometimes be coaxed to heal, but the process is tedious, and the resulting cicatrix often unstable. Latterly, I am inclined to prefer more rapid and energetic measures, such as thorough cauterization with the chloride of zinc. The chloride exposed to the air until it has sufficiently deliquesced, is applied to the ulcer in a thin layer by means of a platinum spatula. It is then covered with a piece of lint cut to fit the part, and the whole left to itself until the eschar falls, which may not occur for a week or ten days. Upon removal of the crust healthy granulations will usually be apparent (and sometimes complete cicatrization), but if not the cauterization must be repeated. In case the floor of the original is covered with large, uneven, and papillomatous granulations *(verrucous form)*, it is best to remove them by thorough scraping with the "sharp spoon" (Fig. 30), an instrument specially recommended in this connection by Volkmann. It is also

---

[1] Rapporto annuale dei Malati Cutanei dell' ospedale magg., Milano, 1865.

[2] Ueber den Lupus und seine Behandlung, Leipzig, 1870.

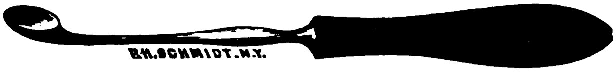


Fig. 30.

---

[1] A Practical Treatise on Diseases of the Skin, Am. Ed. Phila., 1860.

[2] Am. Jour. of Syph. and Derm., vol. I. p. 316.

well to give the edges a good scraping with the spoon. The morbid tissue yields more readily than the healthy, and a considerable portion of the disease may be thus removed mechanically. When a somewhat level surface has been obtained, apply the zinc in the manner described, and, after the fall of the crust, repeat the operation if necessary.

TREATMENT OF THE TUBERCULAR SCROFULIDE WITHOUT ULCERATION, OR WITH SUPERFICIAL ULCERATION.—If ulceration has not yet occurred, we have several methods of treatment from which to choose. The indications are to check the spread of the lesion, and to do so with the least scarring. Excision may be practiced, and is to be preferred if the lesion is limited and there is sufficient extensibility of the surrounding skin to permit of coaptation of the edges of the wound, so that we may hope for a linear cicatrix. If the lesion is small and quite superficial, it may be readily removed with the skin-grafting scissors (Fig. 22). Excision to be effectual must be thorough, both as to depth and extent. As the morbid deposit in this variety, rarely extends beneath the subcutaneous tissue, and usually ceases at the lower part of the corium, no difficulty will be experienced in this direction; but the infiltration is apt to extend laterally for some distance beyond the points at which the disease is evident, and consequently the incisions should be made at least two or three millimetres beyond the apparent limit of the lesion; otherwise a speedy return of the trouble may be anticipated. If the situation of the disease or the condition of the parts renders excision undesirable, the tubercles may be destroyed with nitrate of silver. This method is largely practiced in Vienna, and consists in boring into the diseased tissue with a sharpened point of fused nitrate. The points of silver prepared by SQUIBB, to which he adds a little chloride, to make them harder, are admirably adapted to this purpose. Many of the tubercles, or rather papules, are quite small, and boring into them with the ordinary caustic points inflicts unnecessary pain and injury upon the adjacent healthy tissues. To obviate this, I have for several years used a probe made of irido-platinum,[1] of the form and size shown in Fig. 31. The point of the needle is dipped in fused nitrate (SQUIBB's is better for this purpose than the pure), a thin layer of which immediately congeals around it. As soon as it is cold, a second or a third dipping will increase the deposit of silver sufficiently. With these needles quite small punctures may be made, and are less painful than those made with the ordinary silver stick. Instead of nitrate of silver, nitrate of zinc may be employed. It is used in exactly the same manner as the silver but is a much more energetic caustic. If the irido-platinum needles are not at hand, ordinary straight surgeon's needles may be used, but are not so convenient and are soon destroyed. Actual or galvano-cautery may be employed, but possess no advantages over simpler measures, except the opportunity they afford for display.

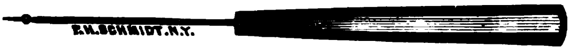


FIG. 31.

Lastly, the disease may be destroyed by means of arsenical paste. HEBRA speaks of this method so enthusiastically that I shall give his description in full. The formula employed is:

---

[1] Pure platinum needles would be too soft and flexible.

R

Acidi arseniosi,	gr. xx.
Cinnabaris,	dr. j.
Ungt. rosæ,	oz. j.

M.

The paste should be thinly spread upon linen, which is cut in narrow strips and accurately applied to the affected part. It is then covered with lint and held firmly in place with adhesive plaster. It is left in position for twenty-four hours, when a fresh application is made without previous washing. At the end of another twenty-four hours it is again applied. During the first day the parts to which the application has been made, present very little alteration and are not very painful. At the end of the second day of treatment, however, the pain increases, and when the plaster is removed, the tubercles are found to have a grayish color and macerated aspect. After the third application the pain becomes still more severe, and the integument surrounding the lupus patch becomes the seat of considerable œdema. On removing the plaster at the end of the third day, all the tubercles, both large and small, are found reduced to the condition of a brownish-black eschar, and covered with a thin pus. The eschars correspond to each tubercle, and are sharply defined by the intervening healthy skin. The pain ceases quickly and completely, and the œdema disappears in two or three days. The great advantage of this arsenical paste consists in its not injuring or even excoriating the healthy skin, while the morbid tissue is safely and thoroughly destroyed.

The little sloughs, which are as numerous as the preexisting tubercles, are loosened by suppuration, and removed in five or six days, leaving small holes separated from each other by islets of healthy skin. Cicatrization is rapid, and the resulting scar not very noticeable.

Sometimes two applications are sufficient; or again, if the tubercles are large and covered with thick epidermis, two or more courses may be necessary. Arsenical poisoning has not occurred in any of the hundreds of cases treated by HEBRA in this manner.

If the tubercles have already *ulcerated*, they may sometimes be coaxed to heal, as already stated, by stimulating applications of acetate of zinc and the like; but it is better to excise, subject to the restrictions above noticed. If excision is contra-indicated, the ulcer and its margin may be well scraped with the sharp spoon, and then cauterized with the chloride of zinc, or a mixture of equal parts of caustic lime and caustic potash made into a paste with absolute alcohol. The fall of the slough will usually reveal a healthy ulcer with a tendency to heal. I much prefer caustics, to the simply stimulating applications, as the latter have in my hands more frequently produced an effect opposite to the one desired.

In the *hypertrophic* form, excision when convenient, or destruction by the actual or galvano-cautery or by electrolytic needles, seems to be the most reliable method; but never having had this variety under treatment, I cannot speak from personal experience.

TREATMENT OF THE TUBERCULAR SCROFULIDE WITH DEEP ULCERATION.—This form demands the most prompt and energetic treatment. In the previous varieties it was at most a question of disfigurement, but in this it is a question of life and death, for if the destructive processes are not checked, a fatal result is by no means rare. In this condition there is but one method to be relied upon, and this is excision followed by cauterization. In recent cases this presents no difficulty; but when the disease has already advanced to a considerable extent, and the bones have commenced to suffer, the indications are not so easy of fulfillment. These cases were formerly regarded as incurable, and active measures were not recommended. Mr. MOORE, however, in his admirable monograph upon *rodent cancer*[1] as he terms the affection, has demonstrated the possibility of curing cases characterized by a very extensive destruction of deep tissues, cases which would usually be regarded as hopeless. His plan consists in removing the diseased parts as thoroughly as possible with the knife, and afterwards applying a layer of deliquesced chloride of zinc. The wound is then packed with cotton-wool, which is left in position till thrown off by suppuration and the formation of healthy granulations. Plastic operations may then be employed to remedy the deformity.

TREATMENT OF THE PHLEGMONOUS SCROFULIDE.—In the early stages and before suppuration has occurred, the nodules may sometimes be caused to disappear by the employment of frequent frictions with the ungt. iodi, or ungt. potassi iodidi; but if they have already softened and contain pus, this should be removed by a fine puncture and suction with a hypodermic syringe, with the subsequent instillation of a drop or two of iodine. This is much better than the free incision recommended by some, and is also better than leaving the lesion to take its own course, as in the latter case considerable scarring is inevitable. If the abscess has already opened and an ulcer formed, it should be freely stimulated, and perhaps cauterized with some of the agents already mentioned.

---

[1] "Rodent Cancer," London, 1867.

Lupus in its several varieties is far from being the intractable disease it was formerly considered, and, when properly managed, is in the majority of cases perfectly curable. It is only a question of time, patience, and the judicious selection of remedial agents adapted to the particular case under consideration.

of the Author.

15

ON

CERTAIN POINTS

RELATING TO THE

NATURE AND TREATMENT OF LUPUS.

BY

HENRY G. PIFFARD, A.M., M.D.,

PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK,
SURGEON TO CHARITY HOSPITAL, ETC.

[*Extracted from the Transactions of the Medical Society of the State of New York*, 1877.]

ALBANY, N. Y.:
VAN BENTHUYSEN PRINTING HOUSE
1877.

15

ON

CERTAIN POINTS

RELATING TO THE

NATURE AND TREATMENT OF LUPUS.

BY

HENRY G. PIFFARD, A.M., M.D.,

PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK,
SURGEON TO CHARITY HOSPITAL, ETC.

[*Extracted from the Transactions of the Medical Society of the State of New York*, 1877.]

ALBANY, N. Y.:
VAN BENTHUYSEN PRINTING HOUSE
1877.

NATURE AND TREATMENT OF LUPUS.

For the purposes of this paper, we will find it convenient to use the term Lupus as a general designation for several morbid conditions that present certain features in common. The name, however, is one not altogether desirable, as its signification is not well defined, different authors including under it several affections which differ in aspect, in histological characteristics, in course, and in prognosis. Rejecting in advance all affections of a syphilitic nature, we confine the term to certain cutaneous lesions that present a few important common peculiarities. To these affections the Germans have given the names of *Lupus Erythematosus* and *Lupus Vulgaris*, and the French the collective title of *Scrofulides*. The latter designation is the one that we prefer, believing, in common with most writers, that these cutaneous lesions are usually, if not always, dependent upon the somewhat undefined and vague condition of ill-nutrition to which the name scrofula or struma is applied. As the object of the present paper is practical rather than theoretical, we will not attempt to discuss the questions of etiology and nomenclature that under other circumstances might prove interesting.

The principal common features of the different varieties of lupus are: absence of pain or itching, extreme chronicity, ultimate destruction of all the tissues invaded, and difficulty of cure.

As a rule, the most extensive lesions cause little inconvenience to the patients, except by the disfigurements that they produce.

Their chronicity is proverbial. An erysipelas, or an eczema may cover in twenty-four hours an area that it may take as many years for lupus to involve. This is well illustrated by the photograph of F. W., in whom the disease commenced in 1854 (twenty-three years ago), and has been constantly present and slowly advancing up to the date when the photograph was taken (March, 1877). As a rule, however, the progress of the disease is more rapid, but never to the degree exhibited by simple inflammation, by syphilis, or by true malignant processes.

The ordinary clinical features of lupus are familiar to most, are well described in many treatises, and have recently been considered with care, and, I believe, with substantial accuracy, by myself. Lengthened detail concerning them would therefore be out of place at the present time, and we will pass to the consideration of certain histological points.

If we remove portions of lupous tissue, and harden, slice, and stain them with carmine, we shall find, on microscopical examination of the stained slices, very notable deviations from the appearances presented by the normal tissues. The prevailing feature in all cases is an infiltration of small round cells, resembling the colorless corpuscles of the blood. This infiltration may be simply diffuse, or diffuse with the addition of certain other cells of peculiar appearance. These are many times larger than the small round cells, are poly-nucleated, and on account of their size have received the name of *giant*-cells. Lastly, the small round cells, instead of being diffusely infiltrated, are collected into certain little clumps or heaps. These three principal histological types found in lupus correspond to three pretty distinctly marked clinical varieties, which differ widely in their appearance, course, and prognosis.

In comparing the microscopical appearances with the cases from which the specimens are derived, we find: First, that the diffuse infiltration corresponds to the superficial forms of lupus, in which ulceration never occurs; second, that the infiltration associated with giant-cells occurs in the deeper forms with ulceration and destruction of the entire thickness of the skin; and, thirdly, that the "cell-heaps" are met with in cases that also invade the deeper tissues beneath the skin. The diffuse, small, round-cell infiltration met with in superficial lupus cannot be distinguished microscopically from small-cell infiltrations in other affections, for we may find identical appearances in syphilis, and even in simple inflammation. In the deeper cutaneous lupus, characterized by the diffuse infiltration *plus* giant-cells, we again find nothing peculiar, as giant-cells are met with in many scrofulous hyperplasiæ, in syphilis,[*] and even in normal infantile bone-marrow. The cell-heaps, however, that we find in the deeply ulcerating form are peculiar to lupus, not having been found elsewhere, so far as I am aware. From this we see that there is but a single histological appearance that can with propriety be regarded as peculiar, and this is met with in but a small minority of cases.

To what then does lupus owe its destructive features? It is not to the size or shape of its cells or the manner of their distribution, for in these respects we cannot, as a rule, discover anything not found in other diseases. We must turn, then, from the microscope, and we must look beyond the mere morphology of the cells, in the endeavor to penetrate their chemical and vital peculiarities.

When we examine the subject from this point of view, and compare lupus with certain other cutaneous affections, we immediately detect important contrasts. A simple inflammatory infiltration may undergo resolution, and disappear in a few days, and leave behind no mark or sign of its previous presence. A syphilitic infiltration may also resolve and disappear in a few weeks, and leave little more than a temporary stain to mark its site. A lupus infiltration in like manner undergoes resolution, but it is only after long months or years; and when this is finally accomplished, a scar corresponding to the extent of the lesion is the inevitable result. We see, then, that one important peculiarity of lupus is the extreme viability of its cells.

Another peculiarity is its gradual extension and involvement of new regions, by an apparently infective process, similar to, but less in degree than that manifested by cancer. In other words, lupus is an affection that presents a certain degree of malignity, varying in different cases, and always less marked than in true cancer. This infective quality is evidenced by the fact that, if a patch of lupus be incompletely destroyed, the disease will most certainly return.

The infiltration in lupus, after it has existed for an indefinite period, ultimately resolves, probably by fatty degeneration and absorption of its cells. This, however, only occurs after the lapse of years, and while resolution is in progress at points first attacked, there is a gradual progression outward, involving the adjacent regions.

---

[*] COLOMIATTI, Giornal. d. Mal. Ven. e dela Pelle, An. x., 1875, p. 331. BROWICZ, Centralb. f. die Med. Wisch. No. 19, 1877.

A consideration of these two points, namely, the extreme viability of the cells and their infective quality, gives us a clue to appropriate treatment.* The indication is clearly to remove the infiltration as soon as possible, and to remove it thoroughly; to destroy, not nine-tenths or ninety-nine hundredths of the lupous cells, but *all* of them. How this may best be done will now be considered.

Treatment.—Unfortunately we possess no medical agents capable of exerting a specific or elective action on the lupous process. There is no question, however, but that mercury, iodine, iodide of potassium, and cod-liver oil exert a beneficial influence. They are both notable resolvents and powerful anti-strumics. Phosphorus is another energetic agent capable of influencing the disease. It is, however, a two-edged sword, and one that is to be handled with great circumspection. The principal physiological, or rather pathogenetic, action of phosphorus is the production of fatty degeneration. As morbid growths possess less vitality than normal tissues, it is possible that the phosphorus induces fatty degeneration of the lupus cells, thus favoring absorption, when given in doses that are insufficient to produce a like result in healthy organs. If this explanation is correct, and it is the one which seems to us most plausible, it is manifestly proper to avail ourselves of the advantages that it presents, at the same time bearing in mind the possibility that, while we are curing the lupus, we may also be killing the patient. We have seen brilliant cures (?) of cutaneous affections accomplished with large doses of mercury, iodide of potassium, and arsenic, but at the expense of the future health of the patient, and there are indications that phosphorus is at the present time being used to excess. While, then, we acknowledge the power of phosphorus, we can not unreservedly recommend its use.

The above mentioned comprise the internal remedies most useful in lupus, but we cannot depend upon them alone, as they will, if unaided, rarely, if ever, effect a cure. Our main reliance is upon external treatment.

The various methods at present in vogue fall into three categories. The effort is made either to produce absorption of the lupous cells, to remove them mechanically, or to destroy them *in situ.* The first of these methods is the oldest, and is the one that has been most frequently practised. Absorption of the infiltration, when limited, may sometimes be procured by strong alkaline applications, *e. g.*, Sapo viridis. liq. potassæ, or stronger solutions of caustic potash, or by acids, such as the glacial acetic and mono-chlor-acetic acids. The biniodide of mercury in ointment is also employed for the same purpose. As the details for the employment of these agents are given in the text-books, their special consideration at this time is unnecessary. This method, whatever agent is employed, is tedious, painful, and uncertain.

The mechanical removal of the cells is a plan that has recently come in vogue. It is effected by means of a small sharp-edged spoon [*spoon exhibited,*] with which the infiltration is scraped out. The morbid tissue yields to the scraper more readily than the healthy, and a very considerable portion of the infiltration can be thus removed mechanically. If all of it—that is, every cell—could be thus scraped out, this method would be a simple and a good one. Unfortunately, however, this can rarely be accomplished, and in the great majority of instances relapse occurs. The result is somewhat better if, after the scraping, pure chloride of zinc is applied to the denuded surface, but, even after this, relapse is not infrequent. The only mechanical means that can be relied on is complete excision, and, if any doubt exists as to the thoroughness of the operation, the chloride of zinc should also be applied to the wound. Excision, when practicable, is certainly the most reliable and in every way best method of treatment. In the majority of cases, however, it is not practicable, and consequently other means must be employed.

The destruction of the cells *in situ* may be accomplished in several ways. First, by boring into the diseased tissues with the solid nitrate of silver in pencil form or fused upon a probe; second, by arsenical pastes; third, by the actual cautery. The first is well adapted to lesions of limited extent, and is often successful. The arsenical treatment is likewise efficient, and if properly performed is perfectly safe, but is exceedingly painful. It is only adapted to small patches, or, if the patch is large, to successive portions. The arsenical and nitrate of silver methods have been often described, and are, or should be, well known. In the actual cautery we also possess an efficient agent. If the lesion is very superficial a thorough cauterization at a *white* heat will be sufficient to effect a cure, and will leave a very good scar. If the lesion is somewhat deeper, a less degree of heat, say a red heat, will penetrate more deeply, and destroy the lesion, but the ulcer left by the fall of the slough will be slower in healing, and the cicatrix will be more retractile—a very important consideration when the disease is situated upon the face. That this method will not always succeed is evident from the case of F. W., to whose face three applications of the white-hot cautery were made during a period of two months. A portion of the lesion has been destroyed, but the lower part of it still exists. This is well shown in the photographs.

Of all the methods mentioned, it might be expected that we would find at least one that could be generally relied upon. This, however, is not the case; and if we remember that a permanent cure can only be expected by getting rid of every lupous cell, and that we must accomplish this without inflicting too great injury upon the adjacent healthy parts, we can readily understand the difficulties to be encountered.

A somewhat varied experience has finally led me to a method, or rather combination of methods, that can, I think, be relied upon in almost every case. The plan that I would recommend is to *thoroughly scrape out as much of the lesion as possible, and then to cauterize the floor and edges of the wound with the actual cautery at a white heat.*

The following cases treated by mechanical measures illustrate some of the points alluded to in this paper:

I.—J. S.; lupus of eight years' standing. Principal lesion in region of left eye; several other foci of disease. In the early stage of the disease caustics were applied, with relapse and aggravation; in an advanced stage excision and cauterization with pure carbolic acid,—relapse; two tubercles on chin excised (histological character,—cell-heaps), without relapse; one tubercle on forehead scraped and solar cautery, without relapse. Ultimate termination, death by phthisis pulmonalis. (Illustrated by five photographs.)

II.—McG.; lupus on the side of the nose; excised; no relapse. (Illustrated by diagram.)

III.—O'C.; lupus of nose; excision (histological character—diffuse infiltration, with giant-cells); relapse; relapse treated with pure chloride of zinc; no relapse at end of two months. (Two diagrams.)

IV.—J. A.; lupus of temple: excision (histological character—cell-heaps); no relapse at end of eighteen months. (Illustrated by diagram.)

V.—R. L.; lupus of face, fifteen years' duration; three foci of disease; one excised (cell-heaps); no relapse; the other two scraped, and chloride of zinc applied; in both instances relapse. Later, one of these was scraped, and the actual cautery applied without relapse; the other was excised, and the actual cautery applied without relapse. A fourth lesion, which had appeared subsequent to the first operations, was scraped, and the nitrate of zinc applied. This relapsed, and the ultimate termination of the case was death by phthisis. (Illustrated by three diagrams.)

VI.—Lupus of the scalp; scraped, followed by relapse; later, scraped and actual cautery; no relapse.

VII.—E. S.; lupus on cheek; scraped and chloride of zinc; relapse; again scraped and actual cautery; no relapse. (Two diagrams.)

VIII.—L. W.; lupus of penis; four foci; one excised (histological character—diffuse infiltration); no relapse; three cauterized with actual cautery. In two no relapse; in one relapse; recauterized, no relapse.

IX.—F. W.; lupus of twenty-three years' standing; three applications of white-hot cautery; partly cured; subsequently scraping and actual cautery; still under treatment. (Two photographs.)

X.—T. G.; lupus of nose and upper lip, three years' standing; scraped and cauterized on sections; no relapse. (Two photographs.)

The comparative efficiency of the various methods of mechanical treatment employed in the foregoing cases may be summarized as follows:

	Successful.	Unsuccessful.
Scraping and chloride of zinc	0	4
Chloride of zinc (very small and superficial lesion)	1	0
Scraping and nitrate of zinc	0	1
Actual cautery	4	2
Excision	6	2
Excision and actual cautery	1	0
Scraping and actual cautery	4	0

A number of cases (of which I have not kept notes) treated by some of the above methods, and several cases in which the ultimate result of treatment is unknown, are not referred to. It will be seen, however, that success is in direct proportion to the thoroughness of the operation, and that our effort should be to remove every lupous cell. This is to be effected by excision when practicable. In other cases, scraping, followed by the actual cautery at a *white* heat, gives us the best assurance of success.

16

FURTHER CONTRIBUTIONS

TO THE

TREATMENT OF LUPUS.

BY

HENRY G. PIFFARD, M.D.,

PROFESSOR OF DERMATOLOGY UNIVERSITY MEDICAL COLLEGE, NEW YORK,
SURGEON TO CHARITY HOSPITAL, ETC.

Read before the Medical Society of the State of New York, February 4, 1879.

Reprinted from THE MEDICAL RECORD, *April* 5, 1879.

NEW YORK:
TROW'S PRINTING AND BOOKBINDING COMPANY,
205–213 EAST 12TH STREET.
1879.

FURTHER CONTRIBUTIONS

TO THE

TREATMENT OF LUPUS.

[Read before the Medical Society of the State of New York, February 4, 1879.]

It will be remembered that at the annual meeting of this Society in June, 1877, the writer had the honor of reading a paper entitled "Certain Points Relating to the Nature and Treatment of Lupus." The matters specially dwelt on at that time were the infectious character of the lesion, and the necessity for thorough and radical treatment if we wished to stay its ravages. Concerning these points I wrote as follows:

"We see, then, that one important peculiarity of lupus is the extreme viability of its cells. Another peculiarity is its gradual extension and involvement of new regions, by an apparently infective process, similar to, but less in degree than that manifested by cancer. In other words, lupus is an affection that presents a certain degree of malignity, varying in different cases, and always less marked than in true cancer. This infective quality is evidenced by the fact that, if a patch be incompletely destroyed, the disease will most certainly return.

"A consideration of these two points, namely, the extreme viability of the cells and their infective quality, gives us a clue to appropriate treatment. The indication is clearly to remove the infiltration as soon as possible, and to remove it thoroughly; to destroy, not nine-tenths or ninety-nine hundredths of the lupous cells, but *all* of them."

The paper from which these extracts are taken was published in the MEDICAL RECORD, July 21, 1877, and subsequently in the Transactions of this Society for that year.

In the *Medical Times and Gazette* for August 4, 1877, there appeared an article by Mr. Jonathan Hutchinson, of London, entitled, "On the Mode in which Lupus Spreads," which commences as follows:

"The mode in which lupus extends itself, and more especially the manner in which multiple patches are developed, is well worthy of investigation. My impression is that the processes are by cell-infection, and very similar to what we observe in cancer."

Farther on he says: "You will see that the correctness or incorrectness of this theory is of considerable importance—as, indeed, all theories are—in its bearing upon practice. If lupus be, as I hold it is, an infective tissue malady rather than a blood disease, we have a strong additional reason for vigor in the use of those methods of treatment which are likely to eradicate its first local manifestations. We apply to it the same rule that we so constantly reiterate in reference to cancer. 'Stamp out the very first indication of flame, in order to prevent the spread of the fire.'"

The remarkable similarity of the views expressed by Mr. Hutchinson, and those which I had previously laid before you, strengthens me in the belief that they are in the main correct, and that a full appreciation of their importance will in the future lead to more thorough and successful treatment of this serious affection. Before entering into further details it may be well to indicate just what we desire to accomplish in the treatment of lupus.

In the first place, we seek to replace the lesion by a cicatrix.

In the second, to prevent a relapse *in situ.*

In the third, to prevent the development of the disease elsewhere.

The fulfilment of the first of these indications is a comparatively easy task, and one that may be effected in a number of ways. Without considering all the methods proposed, or even those which give fairly good results, I will simply recall to your recollection the ones to which I gave the preference in my previous paper.

These are: 1. To excise the lesion, when suitably located; 2. When this is not practicable, to thoroughly scrape out the lupous tissue with the dermal curette, and then cauterize the wound with the galvanic or other actual cautery.

One or other of these means will certainly cure the lesion (temporarily at least) more quickly and less painfully than any method yet proposed.

As regards the second indication—to prevent a relapse *in situ*—it is clear that the more thoroughly the operation is performed the greater the probability of permanent success.

In these cases there is but one consideration that should stay the surgeon's hand, and this is the amount of deformity that will result from the operation itself. Manifestly it would not be proper to remove half the cheek to cure a lupus half an inch in diameter. On the other hand, if not enough of the *apparently* healthy surrounding tissue is removed a relapse is inevitable. The problem is to destroy just enough and not too much, a matter that cannot always be determined with precision in advance of the operation. In my former paper I gave a table of results obtained in the treatment of twenty-five lesions by different methods. These were:

	Successful.	Unsuccessful.
Excision	6	2
Excision and actual cautery	1	0
Scraping and actual cautery	4	0
Total	11	2
By other methods	5	7

These results were certainly calculated to inspire me with a good deal of confidence in the methods advocated, and the cases hereafter to be related will show that in their practical application they almost, if not quite, fulfil their early promise. I feel loath to recite the cases in detail, and would not do so were it not that they proved exceedingly instructive, and will probably enable me in the future to obviate some avoidable causes of failure, and may, for a like reason, prove profitable to you. The cases referred to in my previous paper were numbered from one to ten, and the ones now to be related will follow them in the order of occurrence, with the exception of Case IX., which belongs to the last series, and was then reported as being still under treatment.

CASE IX.—Frank W., a native of the United States, thirty-six years of age, and a seaman by occupation, came under treatment March 22, 1877. His disease commenced at the age of thirteen, by the appearance of the lesion near the inner end of the left eyebrow, from which it spread until it gradually invaded the portions shown in the photograph. It is of the erythematous variety, and involves the lower half of left side of the forehead, the left side of the nose, and the greater part of the left cheek above the angle of the mouth. A portion of the original lesion, directly under the eye and on the forehead, that is, the parts that look pale in the photograph, have already undergone spontaneous retrogressive changes, being smooth, pale, and slightly depressed. The remaining portion of the lesion is elevated and red, with a few fine scales, and is slowly advancing at its periphery. In the infiltrated portion the patient experiences a sensation of heat, worse when he bends down his head. Owing to the extent of the lesion I decided to attack it piecemeal, and on day of visit (March 22d) scraped out some of the peripheral parts and applied a saturated solution of chloride of zinc.

March 27.—The parts cauterized with zinc do not present the usual appearances after cauterization, the eschar being softer than usual, partially detached, and under it there is an unusual amount of pus. To-day scraped out some of the papules, at the exterior and inferior parts of the lesion, and touched the holes with the galvano-cautery at a white heat. The design of the present operations was first to eradicate the disease at the margins, and thus prevent the spread of the affection, and afterward attack the more central and older portions. Those parts which had already undergone spontaneous absorption and cicatrization required no special attention.

March 29.—A slight tendency to suppuration has shown itself about the parts cauterized. The sloughs caused by the zinc have mostly separated, leaving small suppurating ulcers. He says that the parts operated on feel more comfortable than those in which the lesion still exists.

April 1.—To-day, assisted by Dr. H. P. Farnham, removed by incision an elliptical piece from the forehead, extending from the upper part of the lesion to the root of the nose, the piece removed being about 15 mm. long by 7 mm. wide at its broadest part. Two ligatures were necessary to control hemorrhage. The wound was brought together with two silver sutures and dressed with a lotion of *Calendula*. The actual cautery, without scraping, was passed around the margin of the entire lesion, except on the forehead. In addition the diseased surface within the margin received linear cauterizations. Gave him calcium sulphide, gr. $\frac{1}{10}$ *ter die*, in the hope of controlling the tendency to suppuration.

April 5.—There has been a great deal of suppuration and crusting upon the parts cauterized, but none at all along the line of incision which had been dressed with calendula. Removed one ligature, but did not disturb the other dressings.

The subsequent history of the case through the summer need not be detailed other than to state that the patient received two very thorough applications of the galvano-cautery to the diseased surface, without previous scraping. The great apparent change for the better will be seen by examination of the accompanying photographs taken June 9, 1877, and November 22d.

April 1, 1878.—Have not seen the patient for some months, but find him again on resuming charge of the Dermatological wards at the Charity Hospital. On examination find that some portions of the original lesion are thoroughly cicatrized and exhibit no tendency to relapse *in situ*. On the other hand the lesion has extended at other points of the periphery, and little papules are cropping out like islands beyond the edge of the main lesion. The patient's general condition is more depressed than I have before seen it, and the affection exhibits a more evident semi-malignancy than at any previous time.

During the succeeding three and a half months he was subjected to repeated partial scrapings and applications of cautery, and at the end of this period was discharged, at his own request, in a very much better condition than at any previous period. He felt so much better that he was anxious to seek employment out of the Hospital. I do not consider him cured, but expect to encounter him again at some future time.

Constitutional treatment.—During the early periods of treatment he received cod-liver oil without apparent benefit. Phosphorus was tried, but even in very small doses disagreed and had to be stopped.

In 1878, arseniate of sodium, chloride of gold and sodium, and hydrocotyle asiatica appeared to be useful. (Illustrated with three photographs.)

Case XI.—Miss A. L., thirty-one years of age, referred to me by Dr. Giroux, of Brooklyn (E. D.). The disease commenced when she was seven years of age, and occupies a portion of the right cheek, as shown in the photograph (June 23, 1877).

July 2, 1877.—To-day, assisted by Drs. Giroux and G. H. Fox, scraped out the lupous tissue and applied the galvano-cautery to the wound.

July 18.—Her face is entirely healed and has been for some days, but there is a suspicious look to it. The skin is red, and there is a fine desquamation over the site of principal lesion. She says it feels the same as before the operation.

August 18.—Scraped out four small papules that have reappeared, and applied the cautery.

January 6, 1879.—Relapsed, as shown in the photograph taken to-day.

This case was a complete failure, the only one that has yet occurred to me after a second operation. (Illustrated by two photographs.)

Case XII.—Peter H., aged 19, referred to me by Dr. Geo. Bayles, of New York. Disease commenced in 1874, and now occupies both sides of lower half of nose and a large patch below right eye, which produced decided ectropion.

July 3, 1877.—To-day, assisted by Drs. Bayles, Fox and Goodwillie, scraped out the lupous tissue and applied the galvano-cautery.

July 4.—He says that the parts feel better than before the operation.

July 24.—Entirely healed.

August 15.—Looks well everywhere, except three small papules 1 mm. in diameter on left ala, and two hardly perceptible papules that look suspicious. There is also a little scaliness under the eye near the nose.

August 21.—Scraped out the papules referred to and cauterized, but the heat was not satisfactory and the burning inefficient.

May 4, 1878.—Have not seen him since last date until to-day, when I find that the disease has relapsed and is nearly as bad as ever. Operated again by scraping cautery and chloride of zinc.

June 21.—It has been healed for some time and is looking well. Takes chloride of gold and sodium, and arseniate of sodium, of each gr. $\frac{1}{100}$ *ter die.* (Two photographs.)

Case XIII.—G. W. G., aged sixty, referred to me by Dr. J. W. S. Gouley.

Dec. 21, 1877.—In 1862 a lesion appeared on his lip, diagnosticated lupus by the late Dr. John Biddle, of Philadelphia. This received two severe applications of chloride of zinc at the hands of Dr. Biddle, and has not returned. Fifteen months ago a similar lesion appeared on right ala nasi, diagnosticated by Drs. Bazin and Hardy in 1876 as lupus. It was then treated with Vienna paste and healed, but broke out again. In August, 1877, Dr. Lente of Saratoga applied a hot iron with good effect, but two other points of disease appeared near the old spot about two months ago. To-day, on examination, find an ulcerating lupus occupying a portion of the right ala nasi 1 cm. in diameter. It involves the whole thickness of the skin, and exposes the cartilage. It has also crept around this latter and invades the mucous membrane to a slight extent.

Dec. 22.—Assisted by Drs. Gouley and Fox, scraped the ulcer thoroughly and applied actual cautery.

Jan. 13, 1878.—Looking very well, and nearly healed.

Feb. 2—Entirely healed, and looking well.

Feb. 16.—No relapse. For the last two months has taken phos. gr. $\frac{1}{100}$ two or three times a day.

Some months later heard from the patient indirectly to the effect that there was no relapse of the disease. (Illustrated with diagram.)

Case XIV.—Maria M., aged thirty-two, referred to me Dec. 30, 1877, by Dr. O. S. Paine, of New York, for opinion.

The disease had commenced twelve years before by the appearance of a small spot between the eyebrows and spread centrifugally until it occupied the position and dimensions shown in the photograph. At present date spontaneous cicatrization has taken place in the older portions, but the peripheral portions on the left side of the nose are in part nodulated, in part ulcerated, and covered with crusts. Both eyelids of right side near inner canthus are occupied by nodules, that of the upper lid being the larger and ulcerated. There is also a small nodule near left inner canthus and between it and the nose. The diagnosis was lupus vulgaris. An operation was recommended. To this the patient would not consent.

May 24, 1878.—Since last date have not seen the patient until two days ago, except when she was exhibited one evening at a meeting of the New York Dermatological Society by another member. To-day, assisted by Drs. Paine, Mulford, and Alexander, I removed a portion of the growth near the right eye with the knife, and the other diseased portions by scraping. The whole was then cauterized, and finally deliquesced chloride of zinc was applied, and the parts dressed with absorbent cotton.

June 14.—All healed.

July 21.—Evidences of relapse.

July 30.—Removed with the knife a relapsed nodule near right eye, and applied chloride of zinc to the wound.

August 21.—All healed, and looking well. Subsequent to this date a small ulcer appeared at root of nose, and another one on the nose at lower portion of original lesion. These were not operated on, but healed while taking medicine.

January 2, 1879.—A fresh ulcer has appeared at root of nose. Internal treatment.

January 15.—Ulcer healed (illustrated with three photographs).

CASE XV.—May 14, 1878.—Margaret W., aged sixty-six years. Twelve months ago a pimple appeared near left external canthus. This enlarged, and ulcerated in the centre. At present the lesion is about 15 mm. in diameter, and consists of a periphery of small nodules surrounding a central depression, covered with small adherent crust. Assisted by Dr. McMaster, excised the entire growth with some surrounding tissue. The connective tissue beneath the lesion appeared healthy, so no caustic was applied, but the wound closed with suture.

May 30.—Wound healed, and no trace of disease.

Nov. 26.—Exhibited at Dermatological Society. No signs of relapse.

Jan. 14, 1879.—No relapse. (Illustrated by diagram and photograph).

CASE XVI.—M. M., female, aged forty, referred to me March 9, 187~~7~~, by Dr. 8/
T. G. Thomas, of New York, gave the following history: The disease commenced four years before by the appearance, on the left side of the forehead, of a small papule. This increased in size, but did not ulcerate. At times it was covered with a fine scale, and was occasionally painful. Later another patch appeared midway between her right eye and ear, and, like the other, gradually increased in size. At present the lesion on the forehead consists in part of a depressed scar toward the median line, and a raised infiltration extending outwardly; the whole about 12 mm. in length. The other lesion is about 2 cm. in diameter, circular, with depressed centre, surrounded by a slightly raised infiltrated ring. Besides these the patient had a small lesion below left eye, one over right shoulder-blade, and one on right thigh. Ordered phosphorus, gr. $\frac{1}{100}$ *ter die.*

March 12.—Assisted by Dr. Fox, I scraped the lesions first mentioned, and applied the galvano-cautery. The lesion above right shoulder was dealt with in the same manner.

March 17.—Scraped the lesion under left eye, and applied chloride of zinc.

March 22.—The lesions scraped and cauterized on the 12th inst. entirely healed, and looking nicely.

April 19.—The spot beneath left eye healed, and exhibiting no sign of relapse; but the other three lesions have all relapsed, so to-day, assisted by Dr. H. P. Farnham, scraped them out very thoroughly and applied galvano-cautery.

June 20.—The lesions have all been healed for some time, but there has been a suspicious look about the one on the side of face. Of late, however, it has improved in appearance.

August 7.—No signs of relapse. Since last date she has been taking a preparation of gold, which she is to continue.

Sept. 15.—Has greatly improved in general health. No signs of relapse in any of the lesions treated, but a lesion has appeared during the last few weeks on lower lip that has a suspicious aspect. Internal treatment.

Oct. 5.—Possibly slight improvement. Continue internal treatment.

Nov. 23.—The tubercle on chin has entirely disappeared.

Dec. 1.—Appears to be well—placebo.

Dec. 14.—No evidence of relapse anywhere. Discontinue medicine.

Jan. 25, 1879.—No relapse. (Two photographs).

Case XVII.—Matthew M., aged 24, admitted into Charity Hospital Jan. 24, 1878, came under my care April 1, with verrucous lupus occupying a large part of dorsum of left hand, and extending upon the wrist and forearm, as shown in the photograph. Disease commenced two years and a half before. Internal treatment.

May 23.—A surface 5.5 x 4 cm. at distal portion of lesion scraped and cauterized. The entire lesion measured 10 x 6 cm.

June 24.—The cauterized portion is rapidly healing, having assumed a perfectly healthy granulating surface, surrounded by a broad cicatricial band.

June 27.—The remaining diseased surface scraped and cauterized.

July 15.—The part last cauterized is more elevated and of a deeper color than the rest.

July 25.—Five small grafts from healthy skin were inserted.

July 30.—Two of the grafts have taken, the others not. A small place on the part first cauterized looks suspiciously like a relapse, and is rescraped and cauterized.

Aug. 31.—Hand entirely healed except a small place about 1 cm. in diameter.

This was subsequently scraped and cauterized by Dr. Habirshaw, house-surgeon, and the patient was discharged from the Hospital in September with the hand entirely healed. (Illustrated by photograph.)

Case XVIII.—Mrs. M. G., 60 years of age, referred to me by Dr. F. D. Lente, Oct. 31, 1878. Disease commenced between three and four years ago as a small pimple in the middle of the forehead. This increased in size and now measures 2 cm. in diameter. It has ulcerated at times and is now in part covered with a crust. The color of the edge is rather pale and waxy looking, but the limiting infiltration is well defined. Advised scraping and cautery.

Nov. 2.—Assisted by Dr. Beverley Robinson, I scraped out the lesion and applied galvano-cautery.

Dec. 16.—The ulcer left after the fall of the slough has proved, perhaps owing to her age, very indolent and slow in healing, but to-day is quite healed with firm cicatrix.

Jan. 13, 1879.—Site of lesion looking well; no signs of relapse.*

Internal treatment.—In addition to the surgical measures, all of the above cases received internal constitutional treatment. In my last paper I referred to the unsatisfactory results obtained from internal treatment alone, expressing at the time but little confidence in any medication, except perhaps the use of phosphorus, at the same time cautioning against its too free or indiscriminate use. With the present series of cases I have experimented quite freely with a number of additional agents, including gold, bromide of gold, chloride of gold and sodium, arsenious acid, bromide of arsenic, phosphorus, hydrocotyle asiatica, silicic acid, silicate of calcium and arseniate of calcium. Under the use of some of these the patient's health was benefited and the appearance of the lesions improved, but whether they contributed in any way to the prevention of relapse *in situ*, I am, of course, unable definitely to determine.

The present paper has already reached such length that the discussion of the third topic—the prevention of the development of the disease in parts other han those first attacked—must be deferred to another occasion.

Conclusions.—With the facts and evidence before you, each may draw such inductions and conclusions as may seem to you warranted. Those at which I have myself arrived, simply corroborate the ones expressed by me two years ago, and are as follows: When excision is impracticable, scraping followed by the actual cautery is the least painful of the radical operations that have been proposed, and cicatrization is most rapid. The resulting cicatrix is smooth and less disfiguring than that which follows spontaneous involution or the potential caustics. The success of the operation will depend on the thoroughness with which it is performed. If a relapse of the lesion occurs it may be expected within three months at latest, and if this period passes without reurn of the disease *in situ*, the only fear is its development elsewhere.

It is from constitutional treatment alone we can here expect success, and as I have seen small lesions, undoubtedly lupous in character, disappear during internal treatment, I am not without hope that much may yet be accomplished in this direction in the future.

10 West 35th Street,
NEW YORK.

---

* March 13th.—No relapse.

LICHEN RUBER

AND

LICHEN PLANUS

BY

A. R. ROBINSON, M. B., L. R. C. P. & S.

PROFESSOR OF DERMATOLOGY IN THE NEW YORK POLYCLINIC; PROFESSOR OF HISTOLOGY IN THE
WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY; ATTENDING PHYSICIAN TO
THE DEMILT DISPENSARY, SKIN DEPARTMENT; MEMBER OF THE NEW YORK
DERMATOLOGICAL SOCIETY AND OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, ETC.

G. P. PUTNAM'S SONS
NEW YORK: 27 & 29 WEST 23D STREET
LONDON: 25 HENRIETTA STREET, COVENT GARDEN
1883

LICHEN RUBER OF HEBRA AND LICHEN PLANUS OF WILSON.

BY A. R. ROBINSON, M.B., L.R.C.P. & S.,

PROFESSOR OF DERMATOLOGY IN THE NEW YORK POLYCLINIC; PROFESSOR OF HISTOLOGY IN THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY; ATTENDING PHYSICIAN TO DEMILT DISPENSARY, SKIN DEPARTMENT, ETC.

IN this paper I will describe the symptoms, anatomy, prognosis, and treatment of lichen ruber of Hebra, and of lichen planus of Wilson, with the object of comparing, in these several respects, the two forms of eruption described under these terms, and of estimating the tenableness of the grounds for regarding them as inflammatory or exudative affections, and but different forms of the same disease.

All writers except Auspitz consider the papules in both cases to be inflammatory in origin, and all except Neumann and Piffard regard them as but constituting different forms of the same disease.

I will describe lichen ruber first and lichen planus afterward.

Lichen ruber of Hebra.—The symptoms here given are principally those described by the Vienna dermatologists, as their opportunities for studying the disease have been so much greater than those of physicians of other countries. In America I have had the opportunity of observing only one case, that of a man under the care of Dr. McMaster, of New York City. From this person I removed several papules, and the drawings Nos. 1 and 2 were made from sections of some of these papules.

Symptoms.—At the commencement of the disease the eruption consists of isolated, slightly scaly, millet-sized papules which appear in two forms; in the one form they are disseminated, of a bright or brown-red color, very dense in consistence, conical in shape, and the apex covered with a firmly adherent, dry, white, scaly mass which gives a rough feel to the touch. In the other form they are also disseminated and of similar size as those of the preceding form, but are pale-red in color, of a waxy, shining appearance; the surface is smooth, rounded, and has a small central depression. This central depression corresponds to the orifice of a hair-follicle. The eruption may appear upon any part of the body, but generally commences on the thorax or abdomen and afterward extends to the extremities, genital regions, and other parts of the body. The papules preserve their original dimensions during their entire existence, never increasing in size by growth at the periphery, the extension of the eruption always depending upon the formation of new papules of similar size and appearance to the already existing ones. These new papules which are being continuously formed arise either in an irregular manner upon the skin, or in a row-like arrangement around or between existing papules. From this constant formation of new papules the skin over a greater or less area becomes more and more occupied by the eruption, until finally the whole area is covered by them, and consequently neighboring papules come in contact. When this last condition is present the eruption appears as a connected, red, infiltrated patch, covered with scales, and having a dry, rough, uneven surface. At the periphery of such an area or patch, characteristic individual papules are always to be observed.

Instead of this irregular and diffuse manner of formation of subsequent papules, they sometimes arise in the form of several circles of closely seated papules around an already existing papule. Afterward the more centrally seated papules sink in, become absorbed, and finally disappear, generally leaving the skin pigmented and atrophied in spots. In this manner variously sized patches arise, the central part of which is pigmented and contains atrophic depressions, while the periphery is formed of one or more rows of wax-like, shining, umbilicated papules. I take it for granted that the umbilication of these papules as here met with depends upon the retrograde process taking place in them, and is not a primary condition. The papules never undergo any changes except resolution from cessation of the formative process, or atrophy from degeneration of the elements forming the papule.

The irregular and diffuse form of extension of the eruption is much more frequent than the aggregated and circular, and is generally the only form present, but the other may also occur exclusively, or, as occasionally happens, both forms are observed on the same person; in which case the former is met with principally on the trunk, and the latter on the extremities.

No matter in which form the eruption spreads, or whether it is accompanied by atrophy and pigmentation or not, it finally, as a rule, extends so as to occupy the whole cutaneous surface, when all signs of papule formation disappear, and the skin appears everywhere reddened, thickened, furrowed, and covered with numerous thin, whitish scales. The skin of the face becomes dry, cracked, and scaly; the lower lids ectropic, the upper lids droop. The thickness of the skin is especially to be observed on the palms of the hands and on the soles of the feet, where the eruption does not appear as papules, but as great thickness of the corneous layer. In consequence of this thickening the fingers and toes stand out apart from each other, half bent, and show, besides redness and infiltration, deep fissures and rhagades. Muscular movement is interfered with, especially at the joints, so that the patient can only with difficulty keep the extremities fully extended or flexed, and consequently seeks a position between these two conditions.

When the eruption is general over the whole surface, the nails always become affected; they are greatly thickened from a deposit of nail-substance from the bed of the nail, are of a yellowish-brown color, very brittle, and have an uneven surface. If the deposit takes place from the matrix alone, then the nail consists only of a short, thin, brittle plate, which projects from the flesh.

The nutrition of the hairs at the seat of the eruption is always interfered with; the hair becomes thinner, falls out, and is replaced by lanugo hairs. The hair of the head, axillæ, and pubis—situations where it grows strongest and is most deeply seated in the skin—resists the process longer than that of the rest of the body.

The eruption appears without prodromal symptoms, and the papules, if situated on the covered parts of the body, may have developed without the knowledge of the individual affected. During the first stage, and also subsequently, there may be considerable itching present, but it bears no relation to the intensity of the eruption, and is much less than that accompanying many other skin affections. The general nutrition of the body is not interfered with until the eruption has occupied a considerable area, when it suffers; and if the entire cutaneous surface is occupied by the disease the system becomes more and more affected, so that after a few years the person passes into a marasmic condition, from which he dies, unless he previously succumbs to complications depending upon this marasmic condition, as pneumonia, pleurisy, intestinal diseases, etc. This is the natural history of the disease, but under proper treatment the eruption may disappear without affecting the general constitution, or leaving traces of its previous existence upon the skin. When removed by treatment the disease is not liable to return. If it is not very extensive it may also disappear spontaneously.

Histology.—According to Hebra (" Lehrb. der Hautkrankheiten," erster Band, zweite Lieferung, p. 391, 1874) no matter how red the skin appears before death it is found on post-mortem not to be thickened, but only pale, flabby, devoid of fat-tissue, and covered with a greater or less amount of scales. Under the microscope the hair-follicles are funnel-shaped with the apex of the funnel downward, and the papillæ and papillary vessels enlarged.

Neumann (" Lehrb. d. Hautkrankheiten," p. 308, Wien, 1880) found the corneous and rete layers increased in size, the interpapillary portions of the rete enlarged and showing growth downward into the corium. The papillæ were partly sunken and atrophied, and partly, especially at the periphery of the papule, enlarged and contained broad-meshed elastic fibres. The blood-vessels were enlarged, and cell-infiltration, especially around the vessels, was observed. The sweat-glands, ducts, and orifices were dilated by epidermic cells. The cells of the external root-sheath of the hair were increased, and formed conical projections into the surrounding tissue, like in acinous glands. The root of the hair had a brush-like form. The muscles of the skin were hypertrophied.

Biesiadecki (" Untersuchungen aus dem path.-anat. Institut in Krakau," Wien, 1872) does not consider that the changes described by Neumann, as occurring in the sheath of the hair-follicles, are characteristic of the disease or a necessary part of the process, as he found normal follicles within the area of the papules. He found the papillæ at the periphery of the papule swollen, the corium œdematous, the rete enlarged, and the central part of the papule, corresponding to an area of about eight papillæ, sunk in and atrophied, thus producing the central depression or umbilicated appearance already described. He thought the atrophied centre corresponded to the place of insertion of a muscle-bundle, a view not compatible with the follicular origin of the papules. He also found colloid degeneration of the walls of the papillary blood-vessels.

Kaposi ("Path. u. Therapie der Hautkrankheiten," Wien, 1880, p. 403) agrees with the previous observers, but does not regard any of the changes described as characteristic or sufficient to explain the gravity of the affection.

From the foregoing we find that Neumann, Biesiadecki, and Kaposi do not agree as to the significance of the abnormal changes observed by them. All agree that the papillary blood-vessels are dilated and that there is an increase in the thickness of the corneous layer. The hypertrophy of the external sheath of the hair-follicle is not characteristic, as shown by its absence in some cases within the area of a papule. They attribute the umbilication of the papules to an atrophic process affecting the rete and papillæ of the central part of the papule; that is, the depression is a secondary condition depending upon retrograde changes occurring in an acuminated papule. The dilated papillary blood-vessels, the enlarged papillæ, the perivascular cell-infiltration are probably the grounds for each of them classifying the eruption as an inflammatory exudative affection.

Before entering into a discussion as to the inflammatory nature of the disease, or as to what processes or conditions should exist in order to justify us in classifying a cutaneous disease as inflammatory in nature, I will describe the changes observed in the skin in the papules removed from Dr. McMaster's patient. I will first describe the changes which occurred in a recent papule, and afterward in one of much longer duration.

Fig. 1 represents a section of a recent papule as seen with a low magnifying power.

The section includes normal skin at both ends and a transverse section of an entire papule. With a low magnifying power, as the section is here represented, the corneous layer is seen to be greatly increased in thickness in the situation corresponding to the seat of the papule, the thickness being greatest in the central portion and becoming gradually less as the periphery is approached. It is very undulating in appearance, the most depressed parts corresponding to the orifices of sweat-ducts or hair-follicles. The rete mucosum is slightly increased in thickness by growth upward toward the free surface, as shown by the uneven upper part of the papule portion, as compared with the normal rete at the ends. There is also a growth downward into the corium of the interpapillary parts of the rete. This growth in thickness of the rete mucosum is neither of marked extent nor general throughout the whole area of a papule, as in some places the rete is of normal thickness. The corium appears to be normal. The papillary blood-vessels are slightly dilated, and a few lymphoid corpuscles

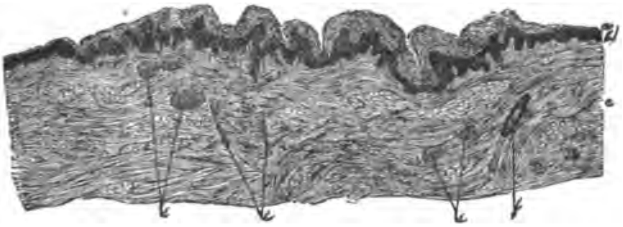


FIG. 1.—Vertical Section of a Recent Papule of Lichen Ruber. *a*, corneous layer; *b*. rete mucosum; *c*, corium; *d*, unstriped muscle-bundles cut transversely; *e*, sweat-ducts; *f*, hair-follicle. The section includes normal skin at the periphery.

may be seen in their neighborhood. Some hair-follicles are hypertrophied and others normal, except at their orifice, which is wide and filled with corneous cells. The unstriped muscle-bundles are seen to be hypertrophied.

Examined with a high power, the corneous layer is found to be greatly hypertrophied, from an increase in the number and size of the corneous elements. The individual elements also show an aberration from the normal process of corneous transformation, as many of the cells of the lower layers are incompletely transformed, as shown by the presence of nuclei, and their coloring with carmine. The nuclei present are either granular in appearance or like vesicles (aufgeblaeht)—that is, large, round, transparent bodies. These incompletely changed cells are met with especially about the orifices of the sweat-ducts and hair-follicles. All the corneous cells are much larger than normal and more polygonal in shape, especially in the lower strata. The rete mucosum appears slightly hypertrophied throughout the greater part of its extent, but in some places is of normal thickness.

There is a slight growth downward of the interpapillary portion of the rete, and a more marked growth upward from the superpapillary part, giving to the upper part of this layer an uneven surface. The rete cells are of normal size and appearance, and seem to be merely increased in number. The granular and stratum lucidum layers are not as distinct as usual, but this may depend upon the locality from which the section was taken, as they were not prominent in the healthy tissue. The papillæ are increased in size, from the growth of the rete downward; their blood-vessels are somewhat dilated, and a few emigrated corpuscles are present immediately outside the vessels. There is no appreciable œdema of the connective tissue from inflammatory exudation. The corium is normal, except some of the blood-vessels are slightly dilated and a few emigrated corpuscles are present. The sweat-glands are normal, except the duct in the corneous layer, the walls of which are formed by large cells, some of which have vesicular nuclei. The hair-follicles are unaffected, except at the orifice, where there is a large collection of corneous cells. The muscle-bundles are hypertrophied to a marked extent.

Summing up the changes observed in the recent papule, we find the principal one to be in the corneous layer. Here there is a great increase in thickness from increase in the number and size of the component elements—not a true hyperplasia, but an increase from a para-typical process, producing a thickening of this layer. This thickness is also especially present at the orifices of the sweat-ducts and hair-follicles. The changes in the rete and in the corium are slight in amount, and there is an entire absence of any actual exudation, emigration, or change to an embryonic condition of the fixed elements of the corium, conditions indicating an inflammatory process.

In papules which have existed for a considerable length of time there is a continuation of the processes observed in the recent papule and afterward retrograde changes leading to atrophy of the part, or there is a return to the normal condition by cessation of the pathological process. The corneous layer is much thicker than in recent papules, but the character of its elements as regards shape, size, structure, and chemical constitution remains the same. Coloring with carmine shows a number of them, especially in the region of the orifices of the sweat-ducts and hair-follicles, to still contain a granular nucleus, while others have a vesicular one. The free surface is not provided with the dry, flat, squamous cells observed in normal epidermis from this region. The rete mucosum is somewhat increased in size, and from its upper portion it sends projections toward the free surface. This unevenness of its upper surface as seen in Fig 2 depends but very slighty upon the rete, for we observe that where these projections exist the rete is not specially increased in thickness, as the cutis papillæ beneath these extend farther upward than elsewhere. As the papillæ are not increased in size, at least to any marked extent, and the rete above them is not thicker there than in other situations, it follows that the uneven upper portion of the rete is produced by the hypertrophied corneous layer.

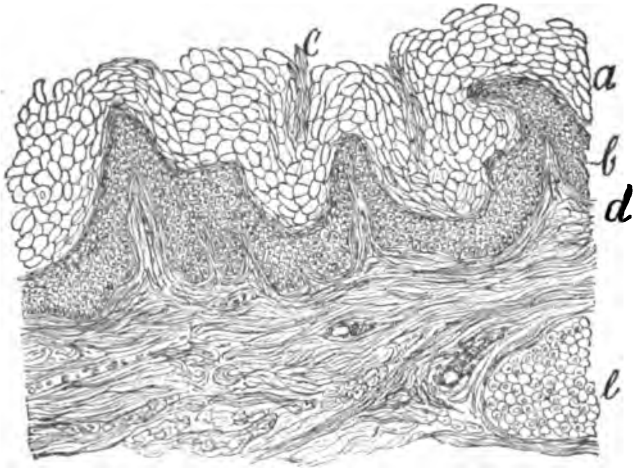


FIG. 2.—Vertical Section of a Papule of Lichen Ruber which had existed several weeks. (More highly magnified than Fig. 1.) *a*, corneous layer; *b*, rete mucosum; *c*, region of sweat-duct orifice; *d*, corium; *e*, unstriped muscle-bundle. (From the lumbar region.)

This hypertrophy of the corneous layer is greatest in the region of the orifices of the sweat-ducts and hair-follicles, and there the projections extend farthest downward. The rete cells are not increased in size, but in many places are very small, a result probably of pressure upon them by the corneous layer. The granular layer and stratum lucidum are not well defined. The interpapillary portions of the rete are increased in size in some situations by slight growth downward into the corium. The cutis papillæ are but slightly enlarged, the enlargement depending upon the changes in the interpapillary rete; the papillary blood-vessels are somewhat dilated, and a few emigrated corpuscles are present outside the vessels. Some of the papillæ are diminished in length, from the downward pressure of the rete and corneous layers.

The structure of the corium is normal except in the neighborhood of the blood-vessels. The majority of the blood-vessels are dilated and surrounded by a variable number of lymphoid corpuscles—emigrated corpuscles. The dilatation of the blood-vessels and the number of emigrated corpuscles is greater than in recent papules, but not sufficient to denote any active process. The unstriped muscle-bundles are always much hypertrophied, much more than in any other cutaneous disease. Some hair-follicles show hypertrophy of the external hair-sheath, while others are normal.

In the central portion of old papules a retrograde process often occurs, consisting in a degeneration of the rete and destruction of a portion of the underlying corium. In some of my sections I found a separation of all the rete, except the lowest layer of cells from the cutis. I am unable to describe the changes which led to atrophy of the part, as I did not remove any papules with atrophic centres.

Deductions.—In the examination of sections of papules of lichen ruber of recent or long existence, it will be observed that we find no liquid exudation; no emigration of white blood-corpuscles, except a few from the blood-vessels of the papillæ and upper part of the corium, the number of which increases with the duration of the disease; no change in the fixed elements of the part to embryonic conditions—that is, none of the characteristic microscopic appearances observed in a vascular tissue, which is the seat of an inflammatory process. The few lymphoid corpuscles observed in the papillæ are due to distention of the blood-vessels and consequent stasis, while the slight increase in size of some of the papillæ results from a growth downward of the interpapillary rete, a growth which is rarely the result of an inflammatory process. Some (Auspitz) maintain that there never is an hypertrophy of the rete, the result of an inflammation of the skin, but I believe that though it is an unusual occurrence, yet it nevertheless occasionally occurs in cases of chronic dermatitis. Dilated blood-vessels and the presence of emigrated corpuscles may also denote an inflammatory process in the skin, but unless this process is primary, and not secondary to other pathological conditions, the disease in which it occurs is not to be classed among the inflammatory or exudative affections. In many skin diseases that we know are not inflammatory in nature dilatation of the blood-vessels and emigration of white blood-corpuscles occur, but only as a secondary condition, as, for instance, in ichthyosis and verruca. The changes in these two diseases, as regards dilatation of the blood-vessels and emigration of corpuscles, are secondary to other changes in the epidermis, and hence are not inflammatory diseases. If lichen ruber was an inflammatory disease, the changes in the corneous layer would require to be a secondary condition, and the result of nutrition changes consequent on the inflammatory process. We find, however, from microscopical examination, that the primary and principal changes occur in the corneous layer; that the other changes observed are slight in comparison with them; and, furthermore, that such changes as occur in the corneous layer, are, I believe, never the result of an inflammation.

From a clinical study of the papule there is also nothing in its mode of origin or appearance which makes it probable that the disease is an inflammatory one. The redness present is principally a hyperæmic redness, as shown by the absence of an inflammatory areola; there is no pus-formation, no abscess, no vesicles, no erosion, no exudation upon the free surface, no inflammatory infiltration into the cutis, no pain, no increase of temperature, judging by the feel—in other words, the essential clinical characters of an inflammation are absent. It is true that a disease may be inflammatory in origin and consist in nothing but papules, as occurs in ordinary lichen or papular eczema, but in this case several of the above-mentioned clinical characters of an inflammation are present, and microscopical examination shows not only dilatation of the blood-vessels, but also exudation, emigration, and change in the tissue of the part. In the majority of cases of this papular eczema, also, papules are intermingled with vesicles or papulo-vesicles, whereas in lichen ruber the papules never become vesicles and never change in character, except to undergo resolution or atrophy.

From a consideration of these clinical and anatomical characteristics of lichen ruber it seems unjustifiable to classify it among the inflammatory or exudative affections of the skin, provided my observations on the anatomy of the papule in its different periods of existence, and views as to the conditions to be necessarily present to constitute an inflammatory process, are correct. The arguments advanced in reference to the clinical characters necessary to constitute an inflammation are similar to those held by Dr. Auspitz, and may be considered tenable.

The anatomy of the papule, as far as the condition of the corium and blood-vessels is concerned, does not differ much from that given by Neumann, although he regards the slight emigration as proof of an inflammatory process. A reference to his drawings will show how insignificant this emigration is compared even with that of the skin in scarlatina. I find that the principal pathological changes are present in the corneous layer, and that the changes in the other tissues are secondary and slight in amount. There is great increase in thickness in the corneous layer—an hypertrophy and an aberration in the process of horny transformation, as already described. Now the horny transformation is a complicated physiological and chemical process, and an excess or aberration of the process may occur without simultaneous changes in the rete. An excessive production of corneous cells may, by pressure upon the rete corpuscles, produce a super-nutrition of these corpuscles and consequent thickening of the layer as occurs in callositas. This continuous pressure upon the rete and underlying cutis, a pressure which increases in amount until the papule has reached its acme of development, is a sufficient explanation for the atrophy which occurs in the centre of old papules without the addition of an amyloid degeneration of the papillary blood-vessels as advanced by Biesiadecki, a condition which was, moreover, not present in my sections. The hypertrophy of the external root-sheath of the hair was absent in some of my sections as well as in those of Biesiadecki, and consequently cannot have the importance attached to it by Neumann. The hypertrophy of the unstriped muscle-bundles, on the contrary, is evidently a constant condition and an essential part of the process of the disease.

In lichen ruber, then, we find that the principal pathological changes occur in the corneous layer, and that these changes consist in an increase in thickness from an excessive production of corneous cells and an aberration in the process of horny transformation. These changes occur especially in the region of the orifices of the sweat-ducts and hair-follicles. There is a digression from the normal physiological process of horny transformation—a keratosis,—a para-typical keratosis,—a para-typical anomaly of horny transformation. It is shown to be a keratosis by the changes in the corneous layer being the primary and characteristic pathological condition, and to be a para-typical keratosis by the digression from the normal process of transformation of the cells, as regards size, shape, structure, chemical constitution, and manner of being cast off. Lichen ruber, then, is not an inflammatory disease, but arises from a continuous collection of epidermic cells from an anomaly in the process of their production and casting off, and these cells, by pressure upon the underlying tissues, produce the other changes occurring in the rete and corium.

Prognosis.—The disease, if allowed its natural course, or if not treated by means of arsenic, invariably proves fatal, as shown by the result in the first fourteen cases under Hebra's care. When treated by arsenic in the manner recommended by Hebra, the disease can always be removed, unless the person is already in a very advanced stage of marasmus.

Treatment.—With the exception of arsenic there is no known preparation, either applied externally or given internally, that has any effect upon the course of the disease. Arsenic alone is to be relied upon, and if given in sufficiently large doses and its use persisted in the eruption will disappear. It is to be given at first in small doses, and the quantity increased every four or five days until the maximum dose which can be well borne by each individual is reached, and this dose continued until the eruption has disappeared, when smaller quantities should be given for three or four months longer. To abate the itching, baths or the application of fat substances, alone or combined with carbolic acid, salicylic acid, or zinc may be employed, but, as a rule, they are of little benefit.

Lichen Planus.—This form of eruption was first described by Erasmus Wilson, and consists of papules remarkable for their color, shape, tendency to arrangement in groups, situation, local and chronic character, and the pigmentation they leave when they subside (Wilson).

Color.—The color of the papule is a dull red, more or less vivid, and suffused with a lilac tinge, which is most characteristic in recently formed and discrete papules; while in aggregated papules, and in those of long standing, it is of a duskier hue. A slight hyperæmic areola is present at the base of recent papules.

Shape.—When very small the papules are roundish in shape; but when fully developed they are generally angular in outline and rise abruptly from the normal skin. They range in size from one to three or four lines in diameter, are but slightly elevated above the general level of the skin, and have a flat, smooth, shining surface, which is frequently depressed in the centre—umbilicated. The papules are covered on their surface by a thin layer of horny, transparent cuticle, which is not a scale, and neither separates nor exfoliates (Wilson). When the papule subsides this layer disappears without exfoliation. If the eruption is diffuse and the papules closely seated there is some desquamation and scaling, especially if the part has been irritated, and appearances somewhat resembling a small diffuse patch of lichen ruber, or of chronic, dry, scaly eczema or psoriasis results. Upon the removal of the thick adherent scales in these cases, the skin beneath may present an excoriated surface.

Arrangement of the papules.—The papules are either discrete or aggregated, but generally show a tendency to form larger or smaller groups. Occasionally they are arranged as broader or narrower, longer or shorter, bands. In the discrete form of eruption the papules arise successively, and after a time variously sized patches are formed, consisting of aggregated and discrete papules united by an inflamed and infiltrated base. The inflammation and infiltration cause a blending of the papules and interpapular skin, and the formation of a raised, thickened, scaling patch. The eruption spreads peripherically by the formation of new papules at the same time that the older papules disappear, leaving behind a dark pigmentation. A single papule may spread by peripherical growth until it has reached, say, the size of a split pea, but a large patch is never formed by peripheral growth of a single papule, as occurs, for instance, in psoriasis. Sometimes a patch is large enough to show a raised border and depressed centre, or a ring is formed by the formation of a chain of papules at the periphery of a patch. If neighboring rings coalesce, the eruption at that place will assume a gyrate form. A patch may consist of a depressed and pigmented centre; external to this large, well-developed papules, and a periphery formed of small, developing papules.

Situation.—The eruption is generally symmetrical, and appears especially upon the anterior surface of the forearms, just above the wrists; it may, however, appear upon any other part of the body, and especially upon the lower part of the abdomen, the calves of the legs, and around the knee. It has been observed, though rarely, upon the palms of the hands and soles of the feet, upon the penis, and on the mucous membrane of the mouth and fauces.

Course.—The course of the eruption is very chronic, and the individual papules may remain unchanged for many months before undergoing a retrograde process. When they disappear they leave behind deep pigmentation, and, occasionally, a slight atrophy. When removed by treatment, it has been observed that old papules leave behind more pigmentation than recent ones. The eruption never appears in the form of vesicles or pustules. The hairs and nails remain unaffected in this disease. There is generally very little itching attending the eruption, but sometimes it is intense. The general nutrition of the body is never affected; no matter how long the eruption lasts, it does not produce any of the grave conditions observed in lichen ruber, owing probably to its not becoming general over the whole body.

Histology.—The changes occurring in the skin in lichen planus have been studied by Neumann, Colcott Fox, and Crocker.

According to Neumann (*Ibid.*, p. 310), the principal changes occur in the upper layers of the skin, the hair-follicles, and sebaceous glands not being affected. He found the corneous and rete layers hypertrophied; the nucleus of the rete cells granular and swollen; the papillæ broader, conical in shape, and containing much granulation tissue; the papillary blood-vessels dilated, and their walls infiltrated with cells; the cell-infiltration extending also in the form of bands around the blood-vessels and sweat-glands in the cutis. The unstriped muscles were hypertrophied. The orifices of the sweat-ducts were dilated, from an increase in the number of epithelial cells; the sweat-ducts were also dilated from the same cause, and in the glands themselves numerous colloid degenerated cells were present. From these observations, Neumann concludes that lichen planus is a circumscribed inflammation of the upper part of the cutis and sweat-apparatus, the latter being the primary seat of the disease. In judging of these conclusions of Neumann, it must be remembered that his clinical description of lichen planus does not correspond in some respects with that which I have given, and which corresponds to the description of English and American writers. Neumann describes an increase in size of the papules to about an inch in diameter, by growth of the periphery, as a normal occurrence—a statement at variance with the views of other observers. This fact leaves us in doubt as to the value of his observations in lichen planus.

Colcott Fox (*British Medical Journal*, 1880, p. 398) thinks it should not be classed among the inflammatory affections of the skin, as he considers no true inflammatory action is present. According to him, the papules owe their origin to persistent neuro-paralytic hyperæmia and its results—namely, dilatation of the blood-vessels and engorgement of the tissues with blood, emigration of leucocytes, œdema, hypertrophy of the various structures, and slight desquamation. This view of the cause of the papule-formation will be referred to after the structure of the papule is described.

Crocker (*Lancet*, 1881, p. 284), judging from his description of the eruption on the patients from whom he removed portions of skin, undoubtedly examined sections of lichen planus papules only, and not any of lichen ruber. As, however, he regards the two forms of papules as belonging to the same disease, he concluded that as his observations differed from those of Neumann and Biesiadecki on lichen ruber, the views of these observers were wrong, or else they had examined only papules of long standing. In quoting Crocker's views, therefore, it is to be remembered that he believes his description applies to both lichen ruber and lichen planus, although he evidently had only examined sections of papules of lichen planus.

My own observations will be found to agree very closely with those of Dr. Crocker. In the more acute cases he finds the papule formed almost entirely by a cell-effusion from one of the vessels of the superficial plexus pushing up the superimposed epidermis. This cell-effusion is sharply limited at the sides, and involves several papillæ. The papillæ are flattened out, the rete is slightly hypertrophied, and there is some loosening of the upper layers of the horny cells over the centre of the papule.

In the more chronic forms, the papule is mostly formed from proliferation of the rete mucosum, the lower layers of the rete cells being flattened, and the upper layers, including the stratum lucidum and granular layer, very distinct. The horny layers are only thickened over the centre of the papules. There is no change in the hair-follicles, unless it be that the orifices are funnel-shaped and packed with cells.

From the foregoing observations his conclusions are :

First.—The process at the commencement is entirely superficial.

Second.—That it consists of an inflammatory effusion from the superficial plexus of vessels, the cells from the horizontal vessels coming only from the upper surface.

Third.—That all the vessels of the plexus are notably dilated, and the papillæ enlarged by downward growth of the interpapillary processes.

Fourth.—That all the epithelial layers undergo proliferation, the rete taking most part in the formation of the papule.

Fifth.—Involvement of the hair-follicles is not essential to the main process.

Sixth.—The sweat-ducts often have an influence in determining the situation of the papule and in producing the umbilication, as they were frequently present in the centre of the papules.

Through the kindness of Dr. Bronson and Dr. Morrow, of this city, I have been enabled to obtain both recent and old papules of lichen planus for microscopical examination. The papules were first hardened in Mueller's liquid, and afterward in alcohol, and sections examined both before and after staining with different agents. Microscopical examination of sections of a recent papule showed the following condition.

In Fig. 3 is represented a vertical section of a recent papule of lichen planus, together with normal skin at both sides. The papule corresponds to the region occupied by the dense round-cell collection in the papillary region and upper part of the corium (*d*). The corneous layer in the region of the papule is almost entirely absent, consisting only of one or two layers of dried, flat, horny cells. The absence of the corneous layer in this situation was observed in all the sections of both recent and old papules examined, and consequently was not an artificial condition from cutting or subsequent manipulation of the sections. Outside the papule region the corneous layer is of normal appearance and thickness, as seen in Fig. 3, *a*. The rete mucosum is thickened in some places, especially in the central portion of the papule area. Papillæ are not recognizable in the central part of the papule. The papillæ and upper part of the corium are occupied by a sharply limited, dense collection of round cells (*d*). At the periphery of this collection the blood-vessels are dilated and crowded with corpuscles, while a considerable number

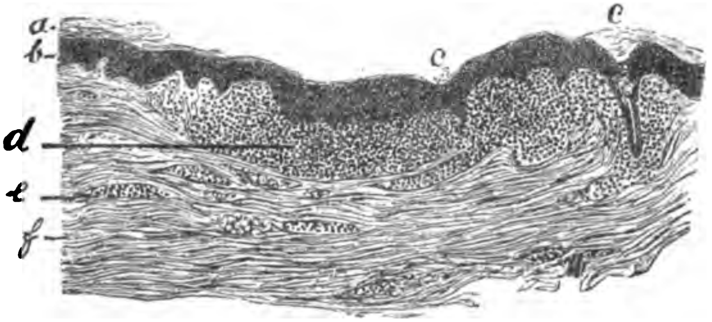


FIG. 3.—Complete Section of a recent papule of lichen planus under a low magnifying power. The section includes normal skin at both sides, but most at left side: *a*, corneous layer; *b*, rete mucosum; *c*, orifice of sweat-duct; *d*, round-cell infiltration; *e*, blood-vessel; *f*, corium.

of emigrated white blood-corpuscles are present directly around the vessels. The deeper portion of the corium appears normal, except that some of the blood-vessels are dilated and surrounded by a few emigrated corpuscles. Examining such a section with higher powers, the rete is found to be hypertrophied in the central portion of the papule, and especially in the region of the sweat-ducts. The cells of all the layers over the dense round-cell collection in the corium are flattened in a horizontal direction, the amount depending upon the amount of pressure from below, as shown by the almost normal condition of the cells toward the periphery of the papule (Fig. 4). The granular layer is much thicker than usual, consisting sometimes of five or more layers of cells where the rete is thickest. This hypertrophy of the rete is very variable as to situation and extent. Generally it is greatest in the centre of the papule and in the region of the sweat-duct orifices, but may occur in the latter situation only. In many places within the area of the papule there is no appreciable hypertrophy, and in the earliest stage of the eruption it is entirely absent.

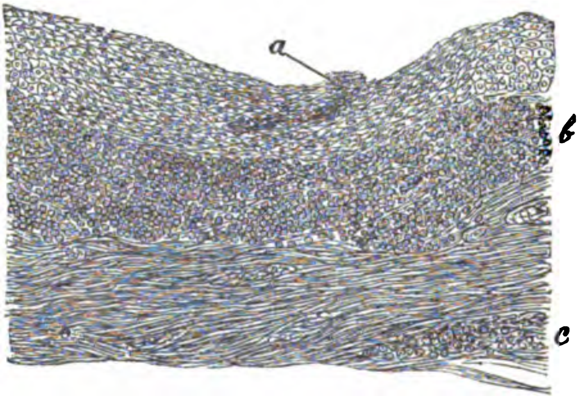


FIG. 4.—Vertical Section of the central portion of a recent papule of lichen planus. *a*, orifice of sweat-duct; *b*, round-cell collection; *c*, region of a blood-vessel.

The cutis papillæ in the central portions of the papule are so infiltrated with cells and the rete so flattened that in some cases the line of separation between the rete and cutis is not recognizable, as is the case in Figs. 3 and 4. If the cell-collection is not very dense the papilla will be observed to contain dilated blood-vessels. At the outer portions of the papule the papillæ contain a more or less dense collection of round cells and dilated blood-vessels. The cell-infiltration into the papillæ and upper part of the corium consists of embryonic corpuscles, which take the place of the connective tissue to a greater or less extent. At the outer portions of the papule connective-tissue bundles are still present; but in the central part, when the collection is very dense, all trace of connective tissue is lost. In the deeper parts of the corium there is nothing abnormal except the presence of a few dilated blood-vessels, some of which are surrounded by emigrated corpuscles.

The hair-follicles and sweat-glands are normal, except that around the sweat-ducts the cell-infiltration generally extends deeper than in other parts. In all of the papules examined a sweat-duct was found near its centre, and seemed to be the principal cause of the umbilicated appearance of the papules, as its presence prevented the pushing upward of the epidermis by the round-cell collection. This umbilicated appearance was also partly owing to the absence of a portion of the corneous layer from the central part of the papule. The hair-follicles had no influence in determining the situation of the papules.

From the foregoing observations the papules of lichen planus examined by me owed their origin to an inflammatory process occurring in the papillæ and upper part of the corium, as shown by the round-cell infiltration and the changes in the tissues of the part. The cell-infiltration from the horizontal plexus did not come from the upper surface of the vessels alone; in fact, I know of no condition, nor can I imagine one, in which only one half a capillary wall will undergo such nutritive changes as to permit of emigration of white blood-corpuscles through it while the other half remains normal. The changes observed in the rete and corneous layer are variable in amount and extent, and can be fairly regarded as secondary conditions depending upon the changed nutrition condition in the cutis. If the papule is of long standing there may be considerable hypertrophy of the rete and corneous layer, as shown by the observations of Dr. Crocker, and further substantiated by the scaly appearance of some patches of the eruption. The dense cell-infiltration, by its pressure upon the papillary blood-vessels and interference with their circulation and nutrition, allows of the passing out of red blood-corpuscles, as occurs in the dense cell-infiltration in connection with syphilitic papules. As a result of this extravasation we have the dark-red color, and the pigmentation remaining after disappearance of the papules. In the return to the normal condition the changes are such as usually occur in inflammatory states: the round-cell collection disappears by fatty degeneration of the corpuscles, and the epidermis regains its normal activity. I have not had the opportunity of examining skin where a papule had previously existed, but I have seen the fatty degeneration of the round cells.

According to the above description, lichen planus papules are the result of a circumscribed inflammation of the papillæ and upper part of the corium, and any changes in the epidermis are secondary to the changed nutrition, the result of this localized inflammation.

Prognosis.—The prognosis is always favorable, the disease having a tendency to spontaneous recovery after weeks or months of existence, and never leads to the low marasmic condition observed in untreated cases of lichen ruber.

Treatment.—In many of the subjects of lichen planus the general nutrition of the body is below a normal physiological standard, and tonics with appropriate diet are indicated. In other cases the eruption seems to be the only pathological condition present. Alkalies, especially the acetate or citrate of potash, with tonics have been found to be of service in some cases. In one case reported by Dr. R. W. Taylor (*Archiv. of Derm.*, 1874) immediate benefit followed the administration of twenty grains of chlorate of potash dissolved in four ounces of water, given fifteen minutes after meals, and followed fifteen minutes later by twenty drops of dilute nitric acid in a wineglassful of water. Arsenic does not seem to have any special effect in this form of eruption. Locally the itching can be treated in the same manner as the same condition in lichen ruber, or in other skin diseases. Beyond preventing itching, local applications do not seem to influence the eruption.

Relationship between lichen ruber and lichen planus?—From a comparison of the symptoms, histology, prognosis, and treatment of the two forms of eruption, as given above, we find that, as regards the symptoms: in lichen ruber the papules generally commence on the trunk and tend to extend over the entire body, and in lichen planus they generally commence on the forearms and legs and very rarely spread over a large area. In lichen ruber the papules are round, acuminated, covered with thin scales, and only show a depressed centre when situated around a hair-follicle or undergoing a retrograde process; in lichen planus the papules are mostly angular in outline, generally umbilicated, and never scaly at the commencement. In lichen ruber the eruption is not symmetrical, and the papules do not increase in size by growth at the periphery; in lichen planus the eruption is generally symmetrical, and many of the papules increase in size to a certain extent by spreading peripherically. Lichen ruber, if not treated, leads to marasmus and death ; lichen planus has no special effect upon the general condition of the system.

Hence, as regards the symptoms, course, and prognosis of the two forms of eruption, they are widely different from each other.

Histology.—From microscopical observation we find that lichen ruber is an atypical keratosis, and lichen planus an inflammatory affection of the papillæ and upper portion of the corium, with subsequent changes in the epidermis. In lichen ruber the corneous layer is hypertrophied, the rete also slightly thickened, whilst there are few or no changes in the cutis; in lichen planus the corneous layer is often absent, the rete is thickened, and there is a dense round-cell collection in the papillæ and upper part of the corium. Lichen ruber is, therefore, an anomaly of growth of the corneous layer, and lichen planus an inflammatory affection of the vascular portion of the skin. As regards the pathological histology they are thus widely different.

As regards the treatment, we find that arsenic, which may be regarded as a specific for lichen ruber, has little or no effect on the eruption of lichen planus; whilst alkalies and tonics, which are frequently of much service in the latter, are of no benefit in the former.

The symptoms, course, histology, and treatment are therefore entirely different, and the question arises as to whether eruptions with such differences in these respects can still represent two forms of the same disease. The polymorphous eruptions of the skin are *par excellence* syphilis and eczema, and with reference to the former a macular syphilide bears no resemblance either in symptoms or treatment to a gummatous tumor, although both are but different forms of the same disease. A study of the natural history of syphilis teaches, however, that the macular eruption corresponds to an early stage, and the gummatous formation to a late stage of the syphilitic infection, and that both are invariably sequelæ of the syphilitic poison; in other words, a study of these two forms of syphilis in any given case will show that both are but forms of the same disease. In eczema the eruption may be papular, vesicular, pustular, or squamous in character; but generally there is a combination of these different forms, and all can be regarded as a superficial catarrhal inflammation of the skin, the intensity of the inflammation or chronicity of the process accounting for the difference in the appearances presented. In the case of lichen ruber and lichen planus, the latter has been regarded as a mild form of the former, the difference in character being attributed to the climate and mode of living in England and America, where lichen planus is frequently met with, as compared with Germany, where lichen ruber is more frequent. It is true that these conditions as regards climate and mode of living do have an influence upon certain skin diseases, although not to the extent generally believed. Those who have seen lupus vulgaris in Vienna and in America have observed the milder character of the disease in this country, depending probably upon the better diet of the laboring classes here as compared with that of Germany, but the difference is only one of degree; the situation, symptoms to a great extent, the pathological histology, and treatment are the same, and even some of the cases observed here are as severe as any observed in other countries. In lichen ruber and lichen planus we have found that it cannot be a question of intensity of the pathological process, as the histology of the two forms of eruption is entirely different. Neither can they represent stages of the same disease, as no one has yet observed a case of lichen ruber develop into one of lichen planus, or *vice versâ*. Here, in New York, a very considerable number of cases of lichen planus have been observed by the different members of the New York Dermatological Society; and although every member is conversant with the characters of the eruption in both lichen ruber and lichen planus, and consequently would be quick to recognize any transition from the one to the other, no case has been observed or reported in which this has occurred. The papules of lichen planus never change to those of lichen ruber, and *vice versâ;* and no similarity has been shown to exist between the two forms of eruption, except that of slight resemblance in color and the papular form of the eruption.

From a consideration of all the above observations, it seems justifiable to conclude that lichen ruber and lichen planus are two entirely distinct diseases of the skin, and that the grounds for regarding them as but two forms of the same disease are altogether untenable.

356 West Forty-second Street.

18

ETIOLOGY OF INFANTILE ECZEMA.

BY R. W. TAYLOR, M. D.

SURGEON TO THE NEW YORK DISPENSARY DEPARTMENT OF VENEREAL AND
SKIN DISEASES; ONE OF THE PHYSICIANS TO CHARITY
HOSPITAL, NEW YORK, ETC.

REPRINTED FROM THE AMERICAN PRACTITIONER FOR JUNE, 1875.

LOUISVILLE:
PRINTED BY JOHN P. MORTON AND COMPANY.
1875

ETIOLOGY OF INFANTILE ECZEMA.

I desire to call the attention of my readers to a consideration of the etiology of eczema of infants. My attention has long been directed to the unsettled condition of opinion upon this subject, and I have endeavored by carefully studying, uninfluenced by any theory, a large number of cases to arrive as nearly as possible at correct conclusions. I think that such a study is at present much needed, in view of the utter want of harmony of opinion among men of authority, and of the fact that a clear knowledge of the cause of a disease is in reality the starting-point for its proper study and treatment.

It appears to me that a doctrine which teaches that every case of this affection is due alone to external causes is too dogmatic and subversive of a broad and extended study of facts. The assertion that it is simply the expression of a number of ill-defined diatheses is not borne out by the teachings of the clinic. Finally the view that some vague internal morbid condition is the active cause requires for its belief a full and lucid statement of what that condition really is. The simple statement of this unsettled condition of opinion is sufficient to show the necessity for its careful and systematic consideration.

In the first place now let us consider whether eczema may be caused in the infant by certain diatheses or conditions of the economy predisposing to disease. I shall not waste time and space in treating of the dartrous or herpetic diathesis, as I regard it as an injurious theory, almost wholly unfounded upon facts, and detrimental to intelligent study. In the proper place I shall consider the facts which I think have been used in the elaboration of this theory. There are, however, certain transmissible conditions which require attention—namely, the rheumatic and scrofulous diatheses—while the syphilitic diathesis, being specific in nature, is not comprised in the list of the probable causes of eczema. The question now for our solution is, do these diatheses predispose to the development of eczema in the infant? Admitting the fact of the transmission of rheumatism, the point which concerns our inquiry is at what age and in what forms does it show itself? and again, does it manifest itself in early infancy? As a general rule, I think it may be answered that the rheumatic diathesis when inherited is late in the evolution of its morbid processes. Thus clinical observation shows that in infancy such subjects are apparently healthy, and that in those exceptional instances in which an early evolution takes place the lesions are those of the joints and fibrous tissues. Later in life the manifestations may be more general, and then we may find that the integument is implicated. The same general course is seen when the diathesis is of the acquired form.

I do not discuss here the reasons why this diathesis is thus tardy in showing itself, as it has no bearing on the subject at issue. As I have said, there are cases in which rheumatism commences early; but, according to my observation, the skin is not one of the tissues liable to be implicated.

In support of what I now advance, by reasoning upon generally-accepted facts, I may state that among the large number of cases of infantile eczema which I have carefully studied as to their etiology there was not one in which I felt that I should be correct in considering it as originating in rheumatism, hereditary or acquired. I can readily understand that by loose reasoning an observer may arrive at this conclusion. Thus he has presented to him an eczematous child, the offspring of parents or of a parent who has the rheumatic diathesis, and he seems warranted in assuming that the skin-affection in the child was due to the rheumatic condition of the parent. The coincidence, however, far from warrants the conclusion. To settle such a point it is necessary to establish the fact that the diathesis of the parent existed prior to the child's birth, and that it inherited it; then it would be necessary to determine the exact relation between the acquired diathesis and the skin-affection. Taking therefore into consideration the facts of the late evolution of the rheumatic diathesis, and of the immunity of the integument, as shown by clinical observation, to the development of its lesions at early periods, I think we are warranted in leaving out this condition as one of the probable causes of infantile eczema. At some future day I propose to study the relation of rheumatism to the eczema of old persons.

This brings us to the question as to whether the affection can be or is caused by the scrofulous diathesis. Previous to this, however, let us determine, if we can, what is meant by the word scrofula. In the light of our advancing knowledge this state is no longer looked upon as a specific or quasi-specific diathesis, while its true nature is being gradually understood. In another place,* and with a different purpose, I have thus summed up the essential nature of this condition, and the description will apply to my present study. I there say that in the scrofulous state children are pallid and weak, and their assimilative processes are far from perfect. They present lesions of a hyperplastic character, indicating a low state of the natural processes. These hyperplastic changes are shown in glandular engorgements in tendencies to active hyperæmia of the various organs and tissues, particularly of the serous and mucous membranes. In such subjects inflammations are quickly excited, are very severe in character, and are attended with the production of large quantities of pus. Accompanying this condition the blood-making functions are impaired and the general action of the viscera is perverted. Besides active inflammation, low grades of hyperplasia of tissues are also observed. Now this condition, which for want of a more precise word we call scrofula, may be hereditarily transmitted, or it may be engrafted upon the organism of the infant by various causes, such as exhausting attacks of the exanthemata, adynamic fevers, and by the results of poverty. In some instances a naturally-delicate constitution is thus modified by a persistent dyspepsia impairing assimilation or by chronic diarrhea. These are the main deviations from health which, I think, constitute what we now call scrofula. In the supposed relation between this state and syphilis there is in fact no transmission of a specific condition. If in the offspring of a syphilitic person an enfeebled organism such as I have pictured is observed, there is nothing of a specific nature in it; it is simply a debility with its concomitant features, remotely due to the impairment of nutrition produced by syphilis in the parent. I am here speaking of cases in which syphilitic lesions are not observed in the child, and whose parents or parent had passed through the specific stage of the disease. As to the matter of therapeutics it is well to understand the non-specific nature of this condition, since antisyphilitic remedies are not indicated.

---

* Syphilitic Lesions of the Osseous System in Infants and Young Children, page 172. New York, 1875.

This then being the condition or diathesis, the question arises what relation exists between it and eczema? or, to be more precise, is eczema one of its manifestations? My opinion in this matter is that the relation, if such exists, between this condition and this skin-affection consists in the tendency to hyperæmia and hyperplasia, which is induced by the general systemic disturbances. The change in the quality of the blood which necessarily follows the general scrofulous condition I believe has not any material influence, at any rate, as an excitant in the production of eczema. The essential cause of the eczema resides in the tendency of the cells of the structure to undergo active proliferation, and in the ready excitability of the vascular system to severe engorgements. Then again there are certain points to be considered relating to the integument itself. Consisting of a framework of young, actively-growing cells, copiously supplied with blood-vessels and nerves, and being placed in a position where it is subject to constant friction, and to the irritation of heat and moisture, etc., it contains within itself and is surrounded continually with those elements which are prone and liable to induce inflammation.

The purport then of our studies thus far shows that the relation between scrofula and eczematous eruptions of the skin consists in the tendency which the diathesis ingrafts upon the latter to inflammation of greater or less extent or severity. In this tendency there is nothing unusual or specific, but in truth the same is impressed on each and every organ or tissue, and the reaction of such, as judged of by the inflammatory process, is shown in proportion as any of them are subjected to irritation. This statement fully disposes of the second question which I laid down; namely, is eczema one of the manifestations of scrofula? Eczema of such children bears the same relation to the systemic condition that a bronchial catarrh does to it, or in fact any hyperplasia even of subacute character. In all such cases I am inclined to think that the starting-point of the skin-lesion is some local irritation, however slight, and that the same pathogeny obtains in case of the bronchial membranes. I do not think that the eczema begins in the majority of these cases without an exciting cause any more than a bronchial catarrh would or does. We may be unable to determine the exact causes, but such generally have existed, though perhaps they were not recognized. In many of these cases I have seen a very insignificant inflammation give rise to extensive patches of eczema; thus a small furuncle may form on the head, and owing to the predisposition an eruption of eczema involving large surfaces may result; or again, in some cases a few hair-follicles of the scalp become hyperæmic; they are scratched, owing to itching, and eczema results. In the vast majority of cases, if strict inquiry is made, the fact will be elicited that the affection began in a localized apparently insignificant manner. This mode of evolution points to a primary local origin, and differs strikingly from the mode of development when symptomatic or excited by internal causes. Under these circumstances a large area is usually first involved, or symmetrical organs are attacked, indicating that the affection is caused by a systemic condition. Thus, I think, our studies will thus far warrant us in stating that eczema of scrofulous nature does not bear the same relation to the general condition that syphilitic eruptions hold to the syphilitic dyscrasia, in which case they are specific manifestations; but that it is an epiphenomenon casually developed, and that its beginning and course are favored materially by the predisposing condition of the economy.

Too much stress can not be laid upon the proper appreciation of these facts in the matter of therapeutics; for they clearly indicate the necessity for the removal of the qualifying influence, in order not only to cure the existing affection, but also to guard against future attacks. Thus, though we admit a scrofulous form of eczema, it must be understood to arise in the modified manner I have described. Though in this condition there is a tendency in all tissues to active inflammation, yet that process is not set up unless under excitation; consequently we should err scientifically if we boldly say that there is a scrofulous bronchial catarrh or a scrofulous eczema, meaning that they were the manifestations or outbursts of the condition.

In order to prepare for the proper appreciation of the therapeutical indications, I may here say the eczema of this origin is somewhat peculiar. It invades, as a rule, extensive surfaces, is profoundly seated in the integument, as judged by the thickening, and is attended with the production of large quantities of pus, is rebellious to treatment, and more than ordinarily prone to relapse.

We now come to the consideration of the question whether eczema as a skin-affection alone is hereditarily transmissible in the absence of an accompanying diathesis. Hebra, without entering minutely into this matter, decides the question in the negative, and authors generally think that the occurrence is possible together with a general diathesis. Dr. Tilbury Fox is certainly the most explicit on the subject; and, while he does enter largely into its discussion, concedes that eczema may be handed down from parent to child. Upon the solution of this question a number of very important considerations hang, and by it light may be thrown upon the etiology of other cutaneous affections as well as those of other tissues.

In order to argue the point fully let us formulate the question in a definite and scientific manner. Thus it can be put with more force as follows: Can a tendency to the development of eczema in the integument be transmitted hereditarily without the implication of the general system? In other words, can a local tissue-tendency of which the parent has become the subject be transmitted to the child without any other deviation from the normal standard of the organism? Though not very frequent, cases in which eczema is observed in parents and offspring are sometimes seen. I have observed such, and after having carefully studied them I have been unable to determine any other morbid predisposition of the economy; in fact, the patients seemed in perfect health. Then again other similar but less marked cases are often met with in practice. Thus there are whole families, parents and children, each member of which has an integument of great delicacy and fineness of structure, upon which very slight external causes produce very active inflammation very quickly. In such subjects reflex influences may often be traced as producing cutaneous hyperæmia. Under these circumstances, and in view of these plain, undoubted facts, can there be a reasonable doubt but that a tissue-tendency or predisposition to inflammation has been inherited by the offspring? This same peculiarity is often observed in the mucous membranes, which in children are sometimes susceptible of the various grades of inflammation in the same manner and under like stimulus to its production in their parents. Explained according to a humoral pathology, such instances would be simply those of some unfathomable diathesis, and certain undetermined and vaguely-described blood-conditions would be set down as their cause. Such an explanation, however, is neither satisfactory nor scientific. Let us go a little further. There are a number of skin-lesions which are undoubtedly local, and are thus transmissible. Shall we conclude that they are the expression of a diathesis? For instance, ichthyosis is often transmitted to children from parents. Is there then an ichthyotic diathesis of which the skin-lesion is merely the expression? Again, we sometimes observe a condition much less marked than this affection, which we call xeroderma, which in a local or general manner may be inherited by offspring. Are we then to explain this case by the assumption of a somewhat modified ichthyotic diathesis? Examined with care and without prejudice, and unbiased by preconceived theories, these parents are found to be healthy and to present no other morbid predisposition. In what then has this tissue-change originated? Again, we find more advanced structural lesions of the skin, such as nevi molluscum, warty growths, and sarcomatous infiltrations, in the offspring similar to what were observed in the parents. Now these are strictly limited deviations of tissue-development. Shall they be explained by the existence of an inherited blood-condition which causes them? Other points equally suggestive and conclusive may be urged. Thus Dr. Brown-

Sequard has recently shown by experimentation that tissue-change both in the skin and nervous system, as well as induced deformities, may be and are transmitted from parent to offspring without the system or the blood being involved. These experiments are powerfully convincing against the opinion that a blood-condition or diathesis was handed down, as the lesions were observed in the lower animals who were healthy, and in whom no such diatheses are known to exist. What then is the explanation of these phenomena of heredity? If we endeavor with the most captivating arguments to establish a condition of the blood and general system as being the cause of these tissue-changes, we have in the end simply a more or less plausible theory which the fact of the cases will not really warrant. Indeed I am of the belief that in general no abnormal condition of the system exists. On the contrary, is it not more in accordance with the facts presented to consider the lesion of local origin? Such an explanation requires no straining of the reason for its acceptance. As we can detect in neither parents nor children any deviation of health in any way connected with the tissue-change, is it not more in accordance with the facts to conclude that in this instance of hereditary transmission one part of the organism is perpetuated in a slightly abnormal state rather than that the whole fabric is in some occult and undeterminable manner diseased? Certainly one diathesis or morbid state can not be cited as the origin of all these cases of local hereditary tissue-lesion; and if such is their origin, their causes must be various. Yet we are wholly unable in a scientific manner to say precisely what any of these general morbid conditions are, or in what particular manner the blood is abnormal. Now it might be suggested that the tendency to inflammation of the skin and its liability to structural change as hereditary phenomena are not comparable, yet such an assertion can not have, to my thinking, any strong facts to support it. In each instance there is a morbid predisposition which we positively know exists: the one is toward ephemeral and oft-repeated change, as in eczema; the other to permanent alteration, which also may occur several times. The condition which underlies both tendencies is, I think, somewhat similar, and differs, as far as we can decide with our now known facts, only in degree. In eczema there is a tendency of both the cells to hyperplasia and of the blood-vessels to hyperæmia, whereas in structural lesions the hyperplastic process is far in excess of the hyperæmic. These considerations and facts (and equally convincing and analogous ones can be cited pertaining to the nervous and osseous tissues) militate, I think, strongly against the assumption of a hereditary morbid dyscrasia as producing either eczema or other tissue-lesions and tendencies. On the contrary, they point distinctly to a local debility as the cause. Thus the integument of a person who has long been the victim of eczema undergoes a certain modification, consisting, as I have said, in a tendency of his tegumentary cells to active hyperplasia and of his blood-vessels to hyperæmia. This state, becoming chronic, is, I am of the opinion, firmly ingrafted on his skin, and may then be perpetuated or handed down without any modification to his or her offspring. Now it may happen that in the latter this tendency is not developed or manifested by an outburst owing to the absence of exciting causes, yet it may exist.

I have seen recently a case which fully proved this to my mind after a careful, unprejudiced examination. A young man of delicate build, but enjoying perfect health, having a thin, fine integument, who had never had a true eczema in his life, is unable to wear flannel underclothing in winter in consequence of the irritation which such would cause. Putting on recently a pair of woolen gloves, he was compelled to discard their use after a few days' wear, owing to the fact that an eczema localized to the hands began to show itself. I carefully examined the case to determine whether there was any other cause for the attack, and I could find none; in fact, as soon as soft, unirritating gloves were worn no tendency to eczema was to be seen.

Now this young man is the son of a mother enjoying perfect health, but possessing a similar delicate integument, which for many years prior to his birth was more or less covered with eczema. He also has a sister who is afflicted with that affection at the changing of the seasons, she also being otherwise perfectly healthy. Certainly in this young man's case there is indication that an eczema of formidable character would be produced if there was any considerable irritation of the skin; in truth, there is in him a latent predisposition to cutaneous inflammation. The same general features are as often observed in the mucous membranes as in the skin, and instances of them could be cited as analogical evidence, were such necessary. The practical conclusion of the study is, I think, to render very probable the fact of a tissue-debility, which may manifest itself in the individual who possesses it or which may remain latent. It may also be transmitted to the progeny of such a person.

In the present study I have confined myself in the explanation of this morbid tendency to citing an abnormal condition of the cells and of the blood-vessels of the skin, purposely leaving for future study the nervous influence which may be involved in this tissue-debility, as that can be studied more appropriately in connection with the etiology of the eczema of older persons. I may, however, say this here in advance, that I am of the opinion that this morbid impress of which I have written depends in a measure upon the nervous supply to the skin, and that this condition is manifested by tendencies to inflammation in that structure. I propose at some future day to consider in what way the cells and blood-vessels and nerves are severally implicated.

Let us now consider the relation between eczema in children and other cutaneous affections. This question has not yet received sufficient care toward its solution. Since my attention has prominently been directed to the study of the etiology of eczema I have met with at least twelve cases, of which I have taken notes, of young children, who, having had either the exanthemata or some other acute skin-affection, were soon after more or less covered with an eczematous eruption. I examined all very carefully to find the cause, thinking that perhaps in some a debilitated condition of the system had been induced which had predisposed the patients to tegumentary inflammation. Though this hypothesis was admissible in two or three cases, it failed wholly to account for the rest; consequently I came to look upon this condition as being of a modifying rather than of an exciting nature. I must add that I had in these cases thoroughly eliminated all other causes, and had narrowed the issue down, as to cause and effect, to the previous and present skin-affections. The dermatic sequelæ was most often observed in measles and scarlatina, but in two cases the previous eruption was urticaria, and in one case acute erythema. The last three cases were due to chronic gastric irritation, and were of course primarily of a reflex nature. In another instance an attack of contagious impetigo was regarded as the cause. The point to be settled is whether the previous inflammations of the skin tended to the development of the eczema or whether it was a coincidence. The facts of the cases, as well as certain other analogical evidence which applies accurately, convinced me that there was something more than a simple accident. I am of the opinion that in consequence of the activity of the first morbid process in the integument a tendency was induced or ingrafted upon it to subsequent inflammation; in other words, that, as in the other instances cited, the cells and blood-vessels and nerves had received a morbid impress, and that the nervous supply was also in some manner impaired. This then would be in reality simply a tissue-debility, yet it might be qualified by other conditions. Thus if there existed from any cause a general condition of ill health or of malnutrition, this latter would undoubtedly greatly modify the case; or again, if the patient inherited an integument prone to inflammation, this also would have its effects. This hypothesis, I think, fully explains these cases, and has the support of very convincing facts. Thus we see very frequently catarrhs of the mucous membranes which follow and were undoubtedly due remotely to previous attacks of the exanthemata. The conditions here are precisely the same. In these specified fevers the skin and mucous membranes are intensely congested and modified in the manner just described, and these sequelæ, which are admitted by every one, are really lesions of tissue-change and debility. While we admit the sequelæ of other tissues and organs, should we deny that the skin, which we know is so highly vascular and so plentifully supplied with nerves, is not liable also to such morbid impress? for in reality the conditions in every instance are similar. Then how common is it in the adult subject to find an active inflammation of a tissue or of an organ which follows and was caused by the predisposing influence of a similar previous attack? Indeed examples in the whole range of pathology may be quoted as supporting this view, which when summed up may thus be stated: *that any inflammation of an organ or tissue, whether simple or specific, induces a tendency to a similar process in the future by ingrafting a peculiar morbid condition upon the cells, blood-vessels, and nerves of the part.* Perhaps it might be thought that as the exanthemata are specific processes a peculiar condition would be ingrafted upon the integument; but from careful observation I have arrived at the conclusion that the effect is the same upon the integument, whether the first eruption is one of the exanthemata or a simple eruption. The explanation above given covers also cases of eczema following vaccination; but here an important point arises, namely, can an impress which has been ingrafted on one part of the skin modify the whole of that tissue? This question is suggested by the fact that following vaccination the eczema generally begins about or near the arm inoculated, and in contagious impetigo the initial skin-affection, as I will call it for simplicity, is very often locally distributed. My studies in this direction have convinced me that local eruptions may induce a local tendency to eczema confined strictly to these parts, and also a susceptibility which involves the whole tegumentary membrane. But I think that careful, painstaking observation will convince the student of this question, that while a local affection may induce a local tendency, it may also involve a predisposition of all the skin to be affected; but in many instances we find that the susceptibility is greater at the original focus than elsewhere. Still the occurrence of a circumscribed portion of the skin being involved and followed by a tendency of the whole tissue to like change is not unfrequently met with. Thus inflammation limited to the integument, for instance, of the hand may show itself as a result of a previous inflammation; yet with this there may be noticed a tendency to spread, and also that other portions of the integument may appear liable to undergo coincidently inflammatory change. This clinical fact is a very important one, and is capable of varied explanation. For instance, it is thought that the liability to spread is indicative of a systemic condition; indeed that the affection would have remained local had not a dyscrasia existed to aggravate it. The weak point of this argument rests in the fact that in very many instances a morbid systemic condititon can not be determined, and when such, in exceptional cases, is found it is difficult to associate it as a cause to the skin-affection. My observation has taught me, or rather caused me to think, that when a circumscribed area of the skin has once been profoundly altered by an eczematous inflammation the balance of that tissue also becomes liable to the same process, probably in this instance through the impress upon the general nervous supply to the skin, perhaps by sympathetic action.

Now in many of these cases it will be seen that the predisposition is greatest, both in frequency of relapse and in severity of form, at the original focus, and thus remains until the balance of the integument has likewise suffered. This is explained, I think, by the fact that in this area the vessels, cells, and nerves have all been profoundly impressed, while in parts remote the tendency depends upon the nerves alone, they having participated in the process which was once local. I am well aware that this is only a theory, yet I think it offers a more rational explanation in general than is offered by the view of systemic disturbance. Now I do not wish to deny that systemic influences do sometimes predispose to the extension of eruptions, as such upon occasions are observed in practice. What I want to do is to put forward the view that there are in the skin itself inherent causes to this extension without its being affected in any way by the condition of the general economy. As pertaining to the eczema of children, I need not enter further than I have into this question, which requires full elaboration in the study of eczema of older persons. What I have said may be summed up as relevant to our present inquiry as follows: *that eczema, more especially of severe form, localized to one spot, ingrafts a tissue-tendency therein to a subsequent similar attack; and also that this affection of one part of the tegumentary membrane predisposes to a greater or less degree the whole to the same morbid process, which is manifested either by its direct extension from the original focus or by its beginning spontaneously at some point more or less remote from its origin.*

The liability of eczema to spread and become general differs widely in different integuments, owing chiefly to the greater or less predisposition of the tissue. Thus in those who inherit the peculiar tendency to skin-affections which we have studied the predisposition may be expected to show itself by the implication of large areas of skin. Again, normally there exist, as we have seen, integuments more delicate and prone to irritation than others, and in them the eruption would gain greater extent than in those having a skin of coarser texture and less susceptible of irritation. Finally the severity and extent and length of duration of the original local lesion have considerable influence upon the subsequent tendency of the whole integument to be involved.

We are now prepared to consider the influence of local irritations in the production of eczema of young children. It is almost unnecessary to repeat that the integument, owing to its peculiarity of structure and its exposed position, is more liable than other tissues and organs to inflammation. While this fact holds good in the more mature individual, owing to the extreme tenderness of this tissue in infants and children, it is particularly prone to be affected by even slight causes. Now there is a fact, which has been well established in the clinical history of infantile eczema, which points very strongly to its local origin. I refer to the very frequent commencement of the affection about the head. This part of the body for obvious reasons is more liable than others to irritation of all kinds, and it is here that in the vast majority of cases the affection begins. Now we will assume that in some cases general debility may act as a predisposing cause, that in others an inherited tissue-debility is presented, while in still another class previous eruptions, either general or local, have induced a condition of the integument favorable to eczema; but the question now arises, does the affection begin spontaneously? My observation prompts me to give a negative answer in general to this question. Indeed I think that facts warrant me in saying that in every or nearly every case the affection is primarily due to some irritation, and that its cause is modified by the conditions which I have considered. As I have said, the head is the part upon which eczema begins in the greater number of cases, and I think that the fact of this local limited occurrence being so frequent, if not constant, is very weighty as tending to indicate a primary local cause.

If these cases are carefully examined, and if the parents are properly questioned, the fact can in most cases be established.

It is impossible for me to indicate all local causes, but I will speak of several which are quite prolific in the production of eczema. First, I think, in order of frequency is the irritation of soap and water. The extreme cleanliness of many mothers and their frequent use of soap often causes eczema in their children. The last case of this affection seen within a few days clearly proves this point. In consequence of the irritation of soap redness appeared upon the scalp of an infant, which, being still washed, induced an eczema.

In this connection I will refer to a local cause which I have very often found to be the indirect means of producing this skin-affection. Very frequently indeed it will be seen in infants that a quantity of sebaceous matter has formed in patches upon the scalp among the hair. This being very unpleasant to the eyes of cleanly mothers, they use too active means for its removal by soap and water, and they induce an erythematous condition which often ends in eczema. If these tenacious patches were first well rubbed with oil, they could then be removed with more facility and with no bad result. This same condition, due no doubt to increased action of the sebaceous glands, very often among the poorer classes, becomes well marked, owing to want of removal, and by its presence affording a nidus to irritating and dirty substances, even to lice. The result is that eczema follows. Very often upon the head of a child a furuncle forms; it is improperly treated or neglected, or perhaps poulticed, and from this spot inflammation starts, and an extensive eruption of eczema is produced. In many children whose hair is long pediculi are known to cause the affection. Various other causes act upon the scalp in greater or less extent, and tend to produce a copious eruption. The escape of tears over the cheeks, of irritating secretions from the nose and from the mouth, are frequently the means of beginning an eruption which becomes quite large. In many instances I have traced eczema to the ears as the starting-point, the affection having begun either at the angle between it and the head, where the skin is in contact, or perhaps in the ear itself. I have seen undoubted instances in which rough woolen clothes have caused redness of the skin, which has, owing to the non-removal of the cause and the want of treatment, merged into eczema. When speaking of treatment I shall state again what I think is well worthy of careful attention; namely, the necessity of avoidance of irritating swathing woolen clothes to children. In their anxiety to protect their young from cold, mothers very often take measures which result in harm, as eczema is produced. Indeed in winter much delay in the cure of infantile eczema is to be attributed to this cause. Thus children while under treatment are brought to the clinic enveloped in flannel, which being bound around the neck and face is very irritating to the skin. Of course the cure is delayed by this means, and I have upon many occasions found it necessary to explain to the mothers that while it was necessary to protect their children from the cold, it was of the utmost importance not to retard the cure by unnecessary irritation. I think that this practical point is worth the recital. Apropos of it, I may say that changes of season are productive of eczema, and that cold causes its continuance. Quite often does eczema develop primarily upon the cheeks of young children in consequence of the irritation of cold. Indeed I might go on naming other causes which are suggested to my mind by facts elicited from cases; yet I think that, having stated the general causes of local irritation, and having cited the few instances, I have said enough to prove that the vast majority of cases of eczema are thus produced.

19

With the Compliments of the Author.

THE

LOCAL TREATMENT

OF

ECZEMA.

BY

HENRY G. PIFFARD, M.D.,

Professor of Dermatology, University of the City of New York; Surgeon to Charity Hospital, etc., etc.

Reprinted from THE MEDICAL RECORD, *October 26th*, 1878.

NEW YORK:
TROW'S PRINTING AND BOOKBINDING COMPANY,
205-213 EAST 12TH STREET.
1878.

THE LOCAL TREATMENT OF ECZEMA.*

ECZEMA is the most frequent, one of the most obstinate, and certainly the most important of all the cutaneous affections. Its successful management requires a judicious combination of internal and external treatment, with, in addition, proper hygienic attention. Of these the hygienic is the simplest in its applications, insomuch as a clear conception of the nature of the disease immediately suggests the proper rules of diet, exercise, and the like. The internal treatment—that is, the use of drugs, is the most important, but, at the same time, the most intricate portion of the treatment, and will be considered in its details on another occasion. The local treatment stands midway in importance between the internal and hygienic, and midway also as regards simplicity.

The rôle of local treatment is somewhat limited, but if we desire to do our best for the patient, its proper application should not be neglected. In a few cases local treatment alone will succeed in dissipating the lesion, but will not prevent or retard a relapse; in many cases it will materially assist the internal treatment in abridging the duration of the manifestations of the disease, and in a certain number it will modify the subjective phenomena.

Eczema presents many phases varying with the stage, character of the primitive lesion, degree of inflammatory action, individual peculiarity of the patient, complicating circumstances, etc.; but in all of these cases the indications for treatment are so clear that, once rightly appreciated, many of the apparent difficulties disappear.

In no affection with which we are familiar is it so important that the idea of a routine treatment based upon nosology should be abandoned. As regards the internal treatment, it is the *patient*, with all his functional or organic derangements, that demands consideration; in the local treatment it is the cutaneous *lesion* that must be studied and cared for. We must in both cases remember that the conditions actually present in one patient are seldom exactly duplicated in another, and, consequently, that treatment which is best for the first may not, and probably will not, be best for the second. In other words, we must individualize the cases in the strictest manner.

As the present article concerns the lesion only, we will make a brief allusion to the conditions most frequently present, and indicate the principles of treatment that find their application under the varying circumstances of the case.

Every outbreak of eczema commences with a prodromal period of local cutaneous congestion, characterized by heat, redness, slight or almost imperceptible swelling, and certain subjective sensations, which attract attention to the parts. From the appearances alone it will be often difficult to decide what form of cutaneous disease is impending, just as during the first day of an active febrile movement we may be unable to predict the character of the disease that will be developed on the morrow.

---

* **Read before the New York Academy of Medicine, Oct. 4, 1878.**

This period of congestion is rarely presented to the eye of the physician, except when it occurs in patients who are already suffering from more advanced eczematous lesions in other parts of the body, and who have already come under treatment for them.

Under these circumstances we have known the application of solid nitrate of silver to cause a disappearance of congestions that we supposed would have otherwise developed into frank eczemas.

This prodromal congestion, if uninterfered with, usually eventuates in some one of the so-called special primary lesions of the disease. These are six in number. In the first place, the active congestion may give place to a passive one of indefinite duration, characterized by redness, and often a trace of fine desquamation with possibly a little occasional moisture, alternating with the more usual dryness. These cases were formerly classed as chronic erythemata, but a closer study has convinced most dermatologists that they are essentially eczemata. Little attention has been paid to this form in the text-books, but an admirable delineation of the affection will be found in Dr. Duhring's Atlas. The congestion is usually accompanied with a moderate amount of subjective heat, or itching. This form of eczema is more frequent on the face than elsewhere. The most effective treatment for this variety is internal, but still a great deal of assistance is afforded by external means employed in conjunction with the latter. The indications are to reduce the congestion, and to relieve the itching. To accomplish the former the ordinary well-known astringents may be employed. In addition, we have derived benefit from the application of a solution of bromide of potassium in rose-water and glycerine, varying in strength from ten to twenty grains to the ounce. Fluid extract of ergot, rubbed up with cold cream, and a similar preparation of arnica-root are also of service. The pruritus, moreover, must be attended to. This ceases with the congestion, but as this latter will not always subside with wished-for rapidity, antipruritics are often advisable. These may be employed separately or combined with the other applications. Besides the well-known antipruritics, hydrocyanic acid, chloroform, etc., the mixture in equal parts of chloral hydrate and camphor, introduced by McCall Anderson, is worthy of special mention. This mixture, in the proportion of ten to twenty grains to the ounce of ointment, will sometimes greatly palliate the itching.

In the majority of cases, however, instead of the simple chronic congestion, we find a development of certain special lesions, which consist in either vesicles, pustules, papules, fissures, or an exfoliation of the horny layer of the epidermis, or there may be a mixture of two or more of them. This condition is usually termed the first stage, and, as regards the vesicles and pustules, lasts for a day or two only. It rarely comes under notice, and requires little in the way of treatment other than the application of cooling lotions, or better, either the black or yellow wash (mercury and lime-water). To the first stage succeeds the second, characterized by exudation and crusts, specially marked in the vesicular, pustular, and exfoliative varieties, less so in the others.

The accumulation of secretion and crusts in this stage necessitates ablution, but unfortunately the contact with water proves very irritating in many cases, often causing a decided aggravation of the patient's sufferings and a prolongation of the trouble. If, however, we bear in mind the condition present, namely, the skin deprived of its horny epidermis, but with the delicate and succulent cells of rete Malpighii exposed, we can readily understand why the water proves irritating. It is due to endosmosis, causing tumefaction, and perhaps rupture of the cells. The remedy is equally apparent. It is only necessary to use, instead of water, a fluid whose specific gravity is about the same as the serum of the blood. A mixture that we frequently employ is rose-water, to which has been added a little glycerine and chloride of sodium. This will be found much less irritating than pure water.

The crusts being removed, the cleansed parts are in a condition to benefit by some medicinal application, usually in the form of ointment. Of these, the oxide of zinc, when nicely made, is perhaps the best when a protective application alone is needed. It is probably not to any great extent curative, its chief office being to shield the parts from friction and atmospheric influences. The tincture of benzoin which it contains, however, probably exerts a soothing influence. The most effectively curative ointments, in this stage and condition of eczema, are those containing some preparation of mercury : the ammoniated mercury, the nitrate, and the black oxide. The two first may be employed in ointments of officinal strength, or somewhat diluted, the third in the proportion of ten grains to the ounce. Lead comes next to mercury in usefulness, and is usually employed in the form of *ungt. diachyli.* This, to be of service, must be carefully made, and quite fresh, as it easily becomes rancid and irritating. The "glycerole of the subacetate of lead " (Squire's formula) is not open to this objection. These ointments must be used with caution if the affected surface is extensive, as we have known both mercurial and plumbic symptoms to arise in consequence of their too free employment.

The pruritus, which is usually present and sometimes severe, invites attention. Unfortunately, it is very difficult to relieve. The chloral mixture above referred to should not be applied to a surface deprived of its epithelium, in consequence of the pain it produces, and chloroform should not be used in connection with the lead or mercurial ointments, as it greatly promotes the absorption of these metals. It may, however, be used with the zinc. The ointment containing it must, of course, be kept closely stopped to prevent its evaporation. Decided relief to the itching is sometimes obtained by adding to any of the ointments mentioned a little tincture of Hamamelis Virginica. The best preparation is made from the fresh plant. The various "extracts," "double extracts," "red extracts," fluid extracts, etc., in the market represent but a portion only of the virtues of this plant. Country physicians would do well to make their own tincture of hamamelis, using the bark of the smaller limbs or twigs, and macerating it for a few weeks in sufficient 80 per cent. alcohol to cover it. By this means they can obtain a good tincture very much cheaper than a reliable article can be had in the market. Hamamelis is a drug too highly estimated by the public, but too much neglected by the profession. Stramonium and conium are also useful antipruritics. The white precipitate or black oxide may be added to the *ungt. stramonii*, or tinct. stramonium may be added to the ungt. hydrarg. nit. In spite of these the itching will often prove obstinate, and disappear only on the cure of the eruption itself.

When an acute eczema has passed through the period of exudation and crusting, and enters the third stage, characterized by redness, dryness, and scaling, the changed condition will demand a change of treatment. Here the mercury, zinc, lead, etc., are of comparatively little service, and should be replaced by some preparation of tar. Of these the most important are the *ol. picis*, *ol. rusci*, and *ol. cadini*. The last, when genuine (which is seldom the case), is the best. The tar is mixed with simple ointment in the proportion of one or two drachms to the ounce. A useful preparation belonging to the same category is the "*olio di maiz guasto*," much used in Italy. It is prepared from corn.

Thus far we have spoken of acute eczema only, and more particularly of the vesicular, pustular, and exfoliative forms.

In the fissured form, especially on the palms of the hands and behind the ears, we have found plumbago (the best for this purpose is known as "photographic graphite") in ointment (1–10), or mixed with lycopodium or some other inert powder, exceedingly valuable.

When an eczema becomes chronic, it does so either from sheer indolence or in consequence of excessive infiltration. If the indolence is marked by decided venous stasis, dark bluish red color, etc., the hamamelis before mentioned will be found specifically useful; if, however, this feature is not present, or the color of the patch is rather paler than is usual in eczema, the ham. V. will not be of much, if any use. Under these circumstances we need stimulating, *i. e.*, irritating applications. The basis of these may be hydrarg. biniod., hyd. bichlor., potass. iod., iodine, cantharides, croton oil, and many others that will immediately suggest themselves. The first three may be prescribed in ointment, the last three should be applied by the physician—the iodine in tincture and the cantharides in collodion. The croton oil is very conveniently used in the form of solid cylindrical sticks, made by melting together equal parts of croton oil and white wax, and pouring the mixture into paper molds. A single application of either of these irritants is often sufficient to change an indolent patch of eczema into an active one, which then only requires the treatment appropriate to the second stage of ordinary acute eczema to bring about a cure within a reasonable period.

Quite recently we have obtained excellent results by a process that we believe is original—namely, the hypodermic injection of the arseniate of sodium into the eczematous patch. We use solutions of one-fifth per cent., one-half per cent., and one per cent. If there be a single patch of moderate size, a single injection of five to ten minims of the one per cent. or one-half per cent. solution is made. If the patch is larger, or if there are several of them, the weaker solutions are employed, and two or more punctures made in the larger patches or distributed among the smaller ones. The injections are to be repeated at intervals of two or three days, *p. r. n.** As yet we have seen neither abscess nor undue reaction. If the physician will take the precaution to obtain pure arseniate of sodium and distilled water, and make the solution himself, he will be more likely to obtain good results than if he leaves the fabrication of the solution to some apothecary's clerk.

---

* In the first volume of the *Archiv f. Dermatologie*, 1869, Lipp reports the use of hypodermic injections of Fowler's solution and solutions of arsenious

A chronic eczema characterized by excessive infiltration rarely exhibits any tendency to heal until the infiltration has in a measure been dissipated. The lead, zinc, and mercurial ointments will rarely prove of much service in these conditions. The special irritant applications just mentioned will do more harm than good, and will probably increase the infiltration. Its removal, however, may frequently be accomplished by the strong alkaline lotions. If *liq. potassæ* or a stronger solution of potash be applied to the infiltrated patch, we will observe, in a few minutes, a more or less copious exudation of clear serum, with, perhaps, a slight temporary increase of swelling. The exudation may continue for some hours, and then gradually diminish. Coincident with the decline of the irritation, the infiltration in part subsides. The application may be renewed at the end of three or four days or a week. The *modus operandi* of the alkaline application is not quite clear. The effects are possibly due to exosmosis, as we have seen the same result follow the application of strong glycerine. Instead of the potash solutions, *sapo viridis*, or ordinary soft-soap, may be used. This should be well rubbed on with a bit of moistened flannel, till the exuding serum has a slight tinge of red; the application to be repeated once or twice a week, if necessary—emollients to be used in the intervals.

We may also attempt the reduction of the infiltration by stimulating the absorptive function of the sanguineous and lymphatic capillaries. The pathological condition present consists in a superabundance of small white cells. Whether these are outwandered leucocytes, or proliferated connective-tissue corpuscles, is a question not yet settled. The present problem is to get them away from the part of the skin in which they have accumulated. Which set of capillaries performs the principal, or perhaps the entire work in this matter, we frankly confess we do not know. Certain it is, however, that "stimulation of the absorbents" may be effected in several ways. The most effective of these is kathodic galvanism. When this is impracticable, we are accustomed to rely upon some of the more active so-called "acro-narcotics" of the indigenous materia medica. Among these hydrastis and its derivatives hold a first rank. Next in usefulness, in our own experience, has been the iris versicolor. This is met with in trade as a tincture made from the fresh plant, as a fluid extract, and as a "concentrated tincture" (Keith's) made from the dried plant. Here, again, the country practitioner has an advantage over his urban brother, insomuch that he can at small expense make for himself a good tincture from either the fresh or the freshly-dried root, as he desires. We prefer to rely upon the fresh tincture, as the virtues of the dried root become impaired by long keeping. (*Vide* U. S. Disp.) If using the iris versicolor, from ʒ ss. to ʒ i. are mixed with an ounce of simple ointment and

---

acid in psoriasis and chronic eczema. The Fowler's solution is objectionable, as it includes a number of unnecessary ingredients, and the arsenious acid is very insoluble. Lipp only obtained solutions of requisite strength by adding carbonate of potassa or hydrochloric acid.

rubbed up until the alcohol is evaporated. Another tincture that may be usefully employed in the same manner is that of the viola tricolor. This is not strictly an indigenous plant (being naturalized from Europe). The imported tincture is the one we rely on. That made from the garden plant (cultivated for its flowers) is comparatively worthless. We are not aware that the *v. tricol.* grows wild in any part of this country. The *v. pedata* (*vide* Disp.), however, is found from "New England to Illinois and southward" (Gray). As the active principle of the various violets is believed to be the same, it is possible that the native species, especially the *v. pedata* (*vide* Disp.), may prove as useful as the foreign.*

After the infiltration has been in part or wholly removed by some of the means indicated, the patch of eruption will be in a condition to benefit by the mercurial ointments, etc., followed, if necessary, by tarry applications.

The whole of the foregoing relates to eczemas of the general surface. In certain special locations, however, a few modifications of treatment are desirable. When the affection is located upon the scalp in children, and is extensive, the crusting may be very great, and the parts become the home of numerous pediculi. Under these circumstances, delphine or kerosene will destroy the insects. Poulticing will soften and aid in removing the crusts, and cutting the hair will greatly facilitate recovery.

When eczema attacks the hairy portions of the face, the morbid action is sometimes propagated to the lining membranes of the hair follicles (outer and inner root-sheaths), constituting one of the affections which commonly pass under the names of mentagra and sycosis. In these cases it is necessary to remove by epilation all the hairs that proceed from the diseased follicles, in order that the remedial application may penetrate them. In fleshy women eczema sometimes succeeds intertrigo of the submammary and genital regions. In these cases dusting powders play an important rôle.

Eczema of the lower extremities, especially of the legs, is not unfrequently complicated with varicosis and very considerable infiltration. In the former of these conditions, hamamelis, and in both of them elastic compression, will prove of great service.

Lastly, indolent and thickened eczemas of the palms and soles are often exceedingly obstinate. The thickened epidermis may be rubbed down with sand-paper or pumice-stone, and the parts enclosed (at night) with some impermeable fabric (rubber gloves, etc.). The cutaneous exhalations thus retained macerate the parts and excite a healthier action.

The successful management of eczematous lesions necessarily demands an exact appreciation of the conditions present, a knowledge of the means by which they may be remedied, and the proper application of these means.

10 West 35th Street.

---

* Of the internal use of the *iris vers.* and *viola tricol.*, in eczema, we have spoken elsewhere (Cutaneous and Venereal Memoranda, N. Y., 1877).

20

MALARIA AND STRUMA:

THEIR RELATION TO THE

Etiology of Skin Diseases.

READ BEFORE THE

AMERICAN DERMATOLOGICAL ASSOCIATION,

AT NIAGARA FALLS, SEPTEMBER, 1877.

BY LUNSFORD P. YANDELL, JR., M. D.

Professor of Clinical Medicine and Therapeutics, University of Louisville.

REPRINTED FROM THE AMERICAN PRACTITIONER, JANUARY, 1878.

LOUISVILLE, KY.
1878.

MALARIA AND STRUMA,

IN THEIR RELATION TO THE

Etiology of Skin Diseases.

Mr. President and Gentlemen:

The opinions held by your reporter, on the etiology of dermal lesions, are already known to most of the members of the association, and, so far as my knowledge extends, are shared by none. It is for the purpose of bringing these views before you somewhat more elaborately, and in the hope of impressing you with their correctness and importance, that I am with you to-day.

The very imperfect and unsatisfactory state of this branch of dermatology—*i. e.*, its etiology—as compared to the anatomy, physiology, and pathology of the subject, must have impressed itself upon all; and if I am enabled to throw light on the etiology, I shall thereby make clearer the therapeusis of the science for whose advancement we are assembled.

In the beginning let me say, that the etiological doctrines of this report are the result of clinical observation and experience, not of theory and speculation; and it is my belief that from the sick and not from the laboratory, from experimental therapeutics and not from the microscope, our practical medical knowledge is destined to come.

The skin, though differing distinctly in feature and function from the other tissues, is yet composed of similar materials chemically, and is nourished and governed by the same blood and nervous fluid common to all. Therefore, it is rational to suppose that the same influences which produce disease elsewhere produce disease in it; and in dermatological investigation, we should interrogate the complaining organ with reference to the poisons—animal, vegetable, mineral, aqueous, aerial—and to heat, cold, ingesta, functional abuse, traumatism, the heredities, and any other source of disease known to exist.

Excluding the exanthemata, each of which has a special cause, and for none of which have we yet discovered prophylactic or remedy, save only variola and syphilis, and excluding also the parasitic diseases, I hold that in malaria we find the chief source of acute skin disease, and that to scrofula most of the chronic skin diseases may be traced; and that the more inveterate examples of either class are commonly due to a coëxistence of these two causes. And, furthermore, that the favorable or unfavorable course and termination even of the exanthemata are largely influenced by the presence or absence of scrofula and malaria in the patients.

By the word malaria—literally signifying bad air—I need scarcely say that I mean what is otherwise denominated marsh miasm. The former is the preferable name, because of its brevity, its universal currency, and because of the bad preeminence of this bad air. Marsh miasm is an unfortunate term, which has done much to mislead the profession as well as the people. This is evidenced by the fact that we very often hear the presence of malaria denied, on the ground that no marsh or swamp, lagune or pond, is adjacent to the accused locality; whereas we know that no fact in medicine is more firmly established than that malaria may arise without these things. In the rich oases of the Sahara desert, and on the sides of the Rocky Mountains, this mysterious poison exerts its baleful influence. Dr. Dickson says, in his Elements of Medicine, speaking of malarial fevers: "We find these fevers on the cold fens of Holland and Lincolnshire, as well as on the rich rice-fields of the sunny south; on the smiling hills which overlook the Hudson, as well as among the swamps and marshes; on the lime-rock of Kentucky and Tennessee, the clay of Alabama and South Carolina, the sandy barrens of her northern sister, and the granite and sienite of the Empire State; on the volcanic tufa of Civita Castellano and the Roman campagna, and in the very crater and on the sides of extinct volcanoes, as at Balsina and Milo."

Hertz, in Ziemssen's Cyclopædia, quoting, I presume, from Humboldt, after stating that these fevers may originate on a dry soil and in mountainous regions, says:—"On the Tuscan Apennines at a height of eleven hundred feet, on the Pyrenees at five thousand feet, on the island of Ceylon at six thousand five hundred feet, and in Peru at an elevation of ten thousand to eleven thousand feet, malaria is found." According to the same author, malaria, though most frequently developed in summer, may originate in mild winters; and, in my own experience, I have encountered intermittents which certainly had been produced in winter time. Hertz also asserts, what I believe is universally acknowledged, that an average summer temperature of fifty-nine to fifty-nine and eight-tenths Fahrenheit, which is sufficient to induce vegetable decomposition, produces malarial fever. It is also perfectly established that malaria may spring from meadows, from the clearing of forests, from reservoirs, great lakes, mill-ponds, sluggish streams, bilge water, and the water carried for drinking purposes on ships. The turning up of the soil, as in plowing and ditching, and in the construction of fortifications, is a well known cause of malaria.

As to the nature of the poison in question, it would be a waste of time to consider the various suggestions that have been put forth about it, as that it is a sulphurous or saline vapor, carbonic acid, hydrosulphuretted or hydrocarburetted or hydrophosphoretted gas, exhalations from volcanic soil, or ozone or azote, or may depend upon diminished atmospheric elasticity, electricity, or may be an exhalation of living as well as of decaying plants; or that which is taken for malaria may be caused by heat, atmospherical moisture, vicissitudes of temperature, or sulphuret of iron in the soil, or may be animalculæ or vegetable organisms, or may be the result of absence of animal quinia or taurine in the blood, or from a deranged liver; or finally may be caused by the influence of the dog-star, as was once believed.

Pathological evidences of malarial origin of acute skin diseases.—In numerous instances these evidences are patent even to the superficial observer, and may be perceived in the pale, enlarged, flabby and teeth-indented tongue, in the anæmic or muddy complexion, and in distinct malarial periodicity. I say malarial periodicity, because we have scrofulous periodicity as well as periodicity in diseases neither malarial nor scrofulous. Indeed, periodicity is a habit, not alone of disease but of health, not alone in the human system but as well in the aqueous and atmospheric oceans, the heavenly bodies, and even it is asserted of the convulsions of nature.

In a large proportion of cases, however, it is only by patient, careful, and minute inquiry and investigation, that we are able to detect the malarial element. Prolonged malarial disease may exist without any apparent anæmia or pigmentary discoloration, though the opposite is the rule.

The cutaneous lesion may be more pronounced at a certain period of the day, or on certain days, in its color or in the sensations of heat, pruritus or pain, or its secretion may be periodically augmented. Again, the eruption may evince no periodicity, but some organ or function of the body will do so, and the treatment which cures the one removes the other. Furthermore, though no form of periodicity be discernible, yet the antiperiodics will cure these diseases with more certainty than any other medicines, and also more promptly.

These facts I verify daily in my private and dispensary practice in Louisville. In the inmates of hospitals and in private individuals, in New York and Philadelphia, and in Boston and its vicinity, as well as in the southern cities, I have been enabled to distinctly recognize the marks of malarial poison;

of course in a milder form in the north than the south. It can not be denied that in all the northern states the summer heat is sufficient every season to develop malaria, though it be less universal in extent and of a less intense form than in the southern states. Your lakes, fish-ponds, mill-ponds, canals, reservoirs and rivers, are all sources of malarial poison. In all the cities above enumerated you have the commingling of salt and fresh water in the mouths of your rivers, and than this there is no more certain nor universally admitted source of malaria. In addition to all this, in all these cities and in all other cities with which I am acquainted, there are wooden pavements, and these, rotting under the combined influence of the summer's sun and the water sprinkled daily on them to lay the dust, may be foci of the potent and insidious miasm.

Another exceedingly important circumstance to remember, and one so far as I am aware not hitherto pointed out, is that all malarial manifestations are not accompanied by elevation of the temperature of the body or acceleration of the pulse. Hence the term "masked intermittent *fever*" is not always strictly correct, as applied to cutaneous, intestinal, uterine, neurotic, and other maladies, in which malarial *periodicity* is oftentimes a feature. In other words, we may have malarial intermittent affections without any sign of fever. This is most common in the less intensely malarial districts. The febrile feature of malaria is most prevalent in the more intensely malarial regions.

Therapeutical evidences of the malarial origin of acute skin disease.—Antiperiodics, properly administered, yield the surest and speediest results in far the greater number of acute skin diseases. At the head of malarial antiperiodics stand quinia and the other alkaloids of Peruvian bark, and next stands arsenic. Iron in skin diseases, as in all others, is almost indispensable to perfect their cure. Any of the remedies which may relieve intermittent fever, and they are almost innumerable, may cure malarial skin diseases. Furthermore, malarial diseases, of whatever form, will sometimes get well without medicine. The time of the administration of the Peruvian bark salts is, according to my experience, of the first importance. They should never be given during, or immediately preceding or immediately subsequent to, a malarial manifestation, whether this come in the shape of a chill, a neuralgia, a diarrhœa, a cough, or a skin eruption. They should be administered to the extent of fifteen or twenty grains, or more if need be, of quinia, or twenty to thirty or more grains of cinchonia, cinchonidia, cinchonix, etc., in divided doses. The first dose should be given not more than eight hours before the paroxysm, and the last not less than two hours preceding the expected paroxysm or exacerbation.

An imperfect list of the dermatoses which may be developed by malaria.—Acne simplex, acne rosacea, the erythemata, urticaria, eczema, all the forms of herpes, the acute lichens, prurigo, impetigo, miliaria rubra, ecthyma, acute pityriasis; the furunculous affections, and under this head I include boils, carbuncles, felons, malignant pustules, and erysipelas; also elephantiasis græcorum, pellagra, dermal anæsthesia, dermalgia, dermal hyperæsthesia, anidrosis, bromidrosis, hyperidrosis, chloasma.

The malarial poison alone may develop cutaneous disease, and again it may require a traumatism, an indiscretion in diet, a wetting, extraordinary heat or cold, a sudden change of atmosphere or clothing, loss of sleep, or some such thing in addition, to call forth the eruption. The performance of the natural functions, as parturition, menstruation and dentition, for instance, in persons predisposed to malarial disease, or having within them latent malaria, oftentimes excites the skin eruption.

With the mention of two additional facts which impress me as strong evidences of the correctness of my doctrine, I conclude this branch of the subject:

First. Negroes are far less subject to malarial poison than white persons, and they are remarkably exempt from most of the skin diseases just now enumerated.

Second. In India, during the height of the mango season, a severe form of furuncles is prone to occur, and these are called "mango boils," under the impression that eating this fruit produces them. Now, the mango ripens during the early portion of the rainy season, at which time malaria is most rife and virulent, owing probably to the rotting of the luxuriant tropical vegetation drowned by the water. The profuse rains soon wash off this decaying material into the streams, which carry it to the sea and also cool the atmosphere, and with these results there occurs a subsidence of the malarial fevers and the mango boils. This fact in regard to the mango boil was furnished me by a very intelligent and cultivated Anglo-Indian, some twelve months since, to whom I had communicated my views on malaria.

I now come to the second branch of the subject.

Scrofula in Dermatology.—Both the profession and the public are likely to obstinately combat, and indeed to resent, the idea of the scrofulous origin of skin disease, for the reason that scrofula is universally considered a vulgar and disreputable disease, and no one likes to acknowledge its existence either in his person or in his family. My time will not admit of the consideration of the nature of scrofula at any length on this occasion. I believe it to be a disease of nutrition leading usually to the deposit of tuberculous matter. It affects all portions of the system. In the lungs it is called consumption, and in the glands and bones it is called scrofula. It is found in all races and climates, and no age is entirely exempt from it. It is both hereditary and acquirable. It may remain latent in the system of an individual for an indefinite period of years, and indeed it may not only remain latent in the system of an individual, but even for a generation or more, and may then be brought into active existence by some disease or injury, or by the performance of a natural function, as of dentition, menstruation, parturition, or the like. It is immensely the most prolific of all the sources of human death. It not only kills of itself, but often determines the course and the termination of other diseases.

But few physicians even I am persuaded have a just conception of the extended prevalence of scrofula. According to Sir James Simpson, this disease carries off seventy thousand persons annually in Great Britain, in a population of thirty millions, which is two thousand and a third to every million; and it is fair to estimate that this calculation only embraces the frank, well-defined cases, and does not include numerous deaths from obscure forms of scrofula. Lawrence, in his work on the eye, quotes Beer as follows:—"*Nine-tenths* of the ophthalmia in Vienna in children is scrofulous." In Breslau it is greater, according to Benedict, the proportion being *ninety-five per cent.*; and "*not a single family in Scotland is free from scrofula,*" according to Dr. Gregory, of Edinburgh. Dr. John Thompson, in his lectures on inflammation, says:—"*It is rare to meet with an individual who has not, at some period of his life, experienced disease in some shape or another belonging to one of the several forms of scrofula.*" The latter quotations are from Lawrence's work.

In our own country, scrofula, though exceedingly prevalent, and killing more people than any other disease, is far less frequent, I am satisfied from personal observation, than it is in Europe. It is safe to attribute this to the superior abundance of our food and to the abundance of meat especially, and to the better ventilation of the houses of our masses. It may be that the commingling of blood of the many nations from which our population springs also exerts a beneficent influence. So much for the exceeding prevalence of scrofula; and no sound reason can be given why, if it be so abundant in the human system, the skin may not be its frequent seat.

The evidences of the scrofulous diathesis are easily discoverable in the language of the body of a very large proportion of persons coming under observation of the physician; but it is not necessary to enumerate here the signs of scrofula.

The following diseases of the skin are certainly due to scrofula:—Lupus, psoriasis, ichthyosis, scleroderma.

The next following I believe to be due to the scrofulous diathesis:—Molluscum fibrosum, chronic lichen, lentigo, veruca, albinism, scleroderma, keloid, nævus, pemphigus, and pityriasis.

The following diseases are oftenest found in the scrofulous diathesis:—The more obstinate and severer forms of true acne, acne rosacea, impetigo contagiosum, herpes zoster, pemphigus, nonscorbutic purpura, vitiligo, favus, and the other vegetable parasites of the skin.

The foregoing is of course only a very imperfect list, but I trust it is sufficient to convey my meaning.

Therapeutical proof of scrofula.—In the scrofuloderma, as well as in all forms of scrofulous disease, our therapeutical measures are sometimes of little or no avail. In psoriasis, ichthyosis and lupus, however, I have found the antiscrofulous remedies, the constructive remedies, such as cod-liver oil, syrup of the hypophosphites, syrup of iodide of iron, malt, etc., extremely reliable. This line of treatment has given me results the most satisfactory; under it these diseases are curable, and under no other are they with any degree of certainty according to my experience.

Thus briefly are the views on malaria and struma, in their relation to the cutaneous lesions, which have forced them selves upon my mind during twenty years of clinical observation. It is something more than ten years since I became especially interested in the study of skin diseases; but I must confess that their cure was most uncertain, and their management most unsatisfactory, until I learned to treat them with reference to their causes, having first learned from clinical study that they originated in the same causes which produced the other forms of disease.

In conclusion, I respectfully ask of the members of this association a fair, careful, and critical investigation of this most important subject.

SEPTEMBER, 1877.

NOTE.—After the reading of the foregoing report, Dr. Bulkley, of New York, moved that a committee be appointed to investigate the subject clinically, and to report at the next meeting.

Dr. Heitzmann, of New York, opposed such action on the ground that the doctrine was an old one, having been brought forward by a Hungarian physician, Dr. Poor, ten years ago, and having been disproved in Hebra's clinic. This Hungarian claimed, Dr. Heitzmann said, that *all* acute skin diseases originated in malaria, and *all* chronic skin diseases originated in scrofula. Dr. Heitzmann further declared that there is no malaria in Vienna.

Dr. White, president of the association, stated that malaria is unknown in Boston.

Dr. Bulkley, of New York, said that the malarial element was of little or no account in the skin diseases in New York; and none of the fourteen members present were inclined to accept my views.

The action of my colleagues of the American Dermatological Association was not unexpected by me; indeed, it was perfectly natural under the circumstances. Men of science should be slow to embrace new ideas, and no doctrine deserves to receive credence until it has been rigorously investigated. All that I ask is an unprejudiced clinical examination of this subject by the profession. If my opinions are correct, then I have brought most valuable truths to light; if my opinions are wrong, then the etiology of the skin diseases only remains in its former obscurity. The statement of Dr. Heitzmann that my views are old, and that a Dr. Poor, of Hungary, had announced the same doctrine ten years ago in Germany, was news to the other members of the association as it was to me. I had believed myself the discoverer of the important facts concerning the causes and treatment of skin diseases which I have been teaching for five years. The truth of the ideas in question, however, and not the priority of their discovery, is what we are all interested in.

Drs. White and Bulkley and Heitzmann are gentlemen of learning and distinction in dermatology, and I justly appreciate the weight of their opinions; but when they assert that there is no malaria in Boston, New York City and Vienna, I must venture to take issue with them, for I have myself seen the evidences of the malarial poison in all these cities, and the conditions productive of malaria assuredly exist both about and in these cities. That the distinguished gentlemen whom I have just mentioned have not observed the evidences of malaria is but negative testimony. After my report was completed, I had the good fortune to become possessed of McCullough on Malaria, published in 1829, and in this most valuable and interesting work I find recorded many facts which I had already learned in practice, and thought were discoveries of my own. I commend McCullough on Malaria to all who are interested in this momentous question.

From the criticisms which have been made on my views, I find that I have not succeeded in making myself perfectly understood. What I have contended for, and what I have reiterated, is simply this: — *Malaria is the chief source of acute skin disease. Scrofula is the chief source of chronic skin disease. The more inveterate cases of skin disease are often due to the coëxistence of these two things.* The specific exanthems, of course, are not included here, but I contend that their *progress and termination are often largely influenced by the presence of malaria or struma.* I do not claim that malaria or struma are the *sole* causes which produce the dermatoses. Indeed, many of the dermatoses may exist independently of malaria or struma, and most frequently some exciting cause is necessary to develop the cutaneous eruption. Among the exciting causes are irritants, injuries, insufficient or improper ingesta, vicissitudes of temperature, alcohol, dentition, menstruation, parturition, lactation, etc. The proofs of the truth of my views are, in the first place, that the diseases of the skin are cured more certainly and more quickly by the antistrumous remedies on the one hand, and by the antimala-

2-1

THE
RHEUMIC DIATHESIS
IN
DERMATOLOGY.

BY

HENRY G. PIFFARD, M. D.,

PROFESSOR OF DERMATOLOGY, UNIVERSITY OF THE CITY OF NEW YORK; SURGEON TO THE CHARITY HOSPITAL, ETC., ETC.

[*REPRINTED FROM THE TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.*]

UNA FIDES ALTARE COMMUNE.

NEW YORK:
D. APPLETON AND COMPANY,
549 & 551 BROADWAY.
1876.

THE RHEUMIC DIATHESIS IN DERMATOLOGY.

By HENRY G. PIFFARD, M. D.,
PROFESSOR OF DERMATOLOGY, UNIVERSITY OF THE CITY OF NEW YORK ; SURGEON TO THE CHARITY HOSPITAL, ETC., ETC.

Read October 21, 1875.

In a paper upon the classification of skin-diseases, which I had the honor of reading before the New York Dermatological Society, December 8, 1874, and which was published in the *Archives of Dermatology*, April, 1875, I placed Eczema, Psoriasis, and Pityriasis, among the general diathetic affections of the skin, and referred them to a diathesis to which I gave the name of *Rheuma*. This name was chosen, firstly, in consequence of its etymological signification, which implies the idea of exudation; secondly, because the blood-condition underlying this diathesis is probably similar to, if not identical with that concerned in the production of rheumatism and gout; and, thirdly, because the vulgar name *Salt-rheum*, so commonly used in this country, embraces the affections under consideration. As the term Syphilides has been adopted to signify the cutaneous manifestations of Syphilis, and Scrofulides those of Scrofula, in like manner I have given the name of Rheumides to the cutaneous manifestations of the Rheumic diathesis.

THE RHEUMIDES.

The term Rheumides implies the existence of a constitutional condition or diathesis to which these affections may be properly referable. This, at the outset, involves the consideration of three important points. The first of these is, as to the veritable existence of such a diathesis; the second, as to its nature; and the third, as to whether the affections which we have assigned to it really come within its influence.

Argument in support of the existence of the Rheumic diathesis would hardly seem to be necessary were it not for the fact that it is denied *in toto* by the German school; a school whose invaluable contributions to dermatology entitle its views to our highest respect.

Looking to the past, we find that from early times in the history of medicine there has been a more or less prevalent belief in the existence of a general condition intimately connected with certain cutaneous affections, and which was recognized by the Greeks under the name of *psora*. This term, though frequently used with great vagueness, still represented a prominent idea, and corresponded to the "*scabies*" of the Romans (Celsus), the affection to which the name *eczema* is to-day applied.

Paulus Ægenita included psoriasis, as well as eczema, under the term psora.

Rhazes[1] describes two kinds of "scabies," the moist and the dry, and places "pruritus" in intimate connection with them. He attributes them all to "*humores adustos*," and originating "*ex sanguine et phlegmate falso.*" The "scabies" here mentioned was equivalent to the ancient psora or modern eczema, and the "pruritus" probably corresponded to the lichen or papular eczema of the present day.

Leaving the distant past and coming to the dawn of modern systematic dermatology, we find Plenck[2] using the term "scabies" with very great looseness, making no less than eight varieties, of which but one, "scabies verminosa,"[3] corresponds to the affection now called by this name. The "scabies capitis" of Plenck, however, plainly includes eczema and "*est critica evacuatio humoris acrimoniosi, qui per glandulas capillitii excernitur.*"

Later we find that, instead of the Roman "*scabies*" or eczema being the principal feature of psora, the modern scabies or itch proper, by a curious confounding of terms, became its chief synonym. The itch, then, became the representative of psora, and, although by most regarded as a local affection, was still by many believed to be of constitutional origin. This view was especially elaborated by Hahnemann,[1] and carried to such extravagant lengths that reaction was the natural consequence. The idea of the constitutional nature of the itch was finally overthrown by Renucci's[2] demonstration that the acarus scabiei was unquestionably the cause of the affection, and from that time the idea of psora as a constitutional disease no longer existed in the minds of the majority. Modern scabies was the parasite which destroyed the diathetic claims of the ancient and more respectable psora, and hence the German notion of the local nature of all these affections.

---

[1] Latin translation, Basileæ, 1544.

[2] "Doctrina de Morbis Cutaneis," p. 41, Viennæ, 1776.

[3] "Est Scabies, in qua Vermiculi seu Acari Reperiuntur," p. 42.

Turning to England, we find the original idea prevalent in the early part of this century. Parr,[3] speaking of psoriasis, says, "It is more strictly the *dry itch*, which, in compliance with authors, we have mentioned under the last article" (Psora). "It is always apparently connected with some disorder in the constitution, often with gout and rheumatism. The seminium of the disease is apparently in the constitution."

Later this use of the term psora became corrupted, as in Germany; and we find Plumbe[4] confounding it with parasitic scabies. The constitutional nature, however, of the affections which it formerly included, was not given up, and is at the present day steadily gaining ground in England.

In France we find a cutaneous diathesis, distinct from syphilis and scrofula, accepted almost without dissent; this diathesis is commonly known as the "*dartrous*," and, synonymous with dartre, we find a revival of the ancient term *herpes*.

---

[1] "Organon of Homœopathic Medicine."

[2] Gras, "Recherches sur l'Acarus," Paris, 1834.

[3] "London Medical Dictionary," American edition, Philadelphia, 1819.

[4] "Practical Treatise on the Diseases of the Skin," fourth edition, London, 1837.

Hardy[1] believes that the term dartres may with propriety be applied to a very natural family of cutaneous affections, possessing many common characteristics, to which he alludes. In general terms he describes those subject to this diathesis as "in appearance enjoying all the attributes of good health, but who are yet in a peculiar state which cannot be considered perfectly sound. Their integument is habitually dry, and perspiration is diminished. The skin is often the seat of lively itching, even in the absence of eruption. The appetite is generally well developed, and it is well known that the dartrous eat a much greater quantity of food than other patients in analogous conditions. Another important peculiarity is the extreme sensibility of the skin, and the facility with which it is influenced by the lightest and most fugitive impressions. Sometimes general excitement, alcoholic excess, watching, use of coffee, of certain kinds of food; sometimes a local excitement, irritating frictions, or the application of a plaster, will give rise to an eruption, often ephemeral, and not dartrous in character, but which reveals a particular predisposition of the economy, and the existence of a latent vice which needs but a favorable occasion to manifest itself." To this diathesis Hardy ascribes eczema, lichen, psoriasis, and pityriasis.

Gigot-Suard,[2] under the title of *herpetism*, includes the affections just mentioned, and, in addition, a few others whose claims to this position appear to me to be somewhat doubtful.

Bazin[3] separates the dartre or herpetis of Hardy and the majority of French writers into two principal diseases, which he calls respectively dartre and arthritis, and between which he endeavors to draw distinctions, which are in many cases so delicate as to be hardly appreciable. He adds to the list of affections a number which appear to be accidental rather than essential to either of these diatheses.

In Italy, where cutaneous diseases have been studied with great zeal and scientific care, we find a general acceptance of the herpetic and arthritic diatheses.

---

[1] "Leçons théoriques et pratiques sur les Maladies de la Peau," Paris.

[2] "L'Herpetisme," Paris, 1870.

[3] "Leç. théoriq. et cliniq. sur les Aff. cut. de nat. arth. et dart.," Paris, 1868.

Coming finally to America, we find a very wide-spread belief in the existence of a constitutional condition manifested by certain cutaneous eruptions, which have received the common name of *salt-rheum*. It is this diathesis, equivalent to the *dartre* of Hardy, the *herpetism* of Gigot-Suard, the *herpetis* and *arthritis* of Bazin and Italian writers, and the *psora* of the ancients, for which I propose the term *rheumic* as a designation.

The existence of this diathesis cannot be considered completely proved, as the very nature of the case renders an absolute demonstration impossible. In this, as in most other theoretical questions in medical science, we are obliged to form our opinions by the preponderance of probability on one side or the other, and the ability of the theory to explain the observed phenomena. In favor of this diathesis, we have the concurrent opinions of many intelligent and experienced observers, running through long periods of time, and by its acceptance a means of explaining many occurrences which would otherwise be inscrutable.

The second question which requires consideration in this connection is the nature of the rheumic diathesis. This is not simply a matter of theoretical interest, but is of the utmost practical importance from a therapeutic point of view, since a correct understanding of the nature and etiology of the affections dependent upon it enables us to conceive and apply rational methods of treatment.

The older views upon this subject are not of much value, and even when we come to the present century we find very little clearly formulated. The English writers, as a rule, favor the idea that it usually depends upon the condition which gives rise to gout. Schönlein held that it, or at least one of its manifestations (psoriasis), was due to uroplania (an excess of certain urinary ingredients in the blood). This view Hebra expressly condemns. Hardy attributes the diathesis to a peculiar vice of the constitution, of the nature of which he is ignorant; Bazin, so far as his arthritides are concerned, to the same general blood-conditions which predispose to inflammation of the joints, both rheumatic and gouty; Gigot-Suard to uric, sometimes to oxalic acid. It will be seen, then, that all the decided opinions which have been expressed, concerning the nature of the diathesis, by those who believe in its existence, are one in idea if not in words, and imply the existence of some *materies peccans* as the efficient cause of its manifestations. The views above stated are in the main based upon clinical observation, with the exception of Gigot-Suard's, which derives additional weight from the results of experimental investigation (detection of uric acid in the scales and secretions in these affections, and the induction of similar cutaneous lesions, by the ingestion of uric and oxalic acids).[1] My own view, derived from observation, study, and experiment,[2] harmonizes with those mentioned. It may therefore be formally stated that the affections pertaining to this diathesis are, in all probability, due to the accumulation in the blood of an excess of certain excrementitious substances, and presumably those which are also efficient in the causation of gout and rheumatism, with perhaps the addition of a few others whose relations to morbid conditions have not as yet received much attention. Although it is far from being susceptible of demonstrative proof, it is more or less probable that the following are the noxious agents, namely: uric acid, lactic acid, oxalic acid, creatin, creatinin, and possibly others. The first, fourth, and fifth of these, are always derived from preëxisting albuminoid substances; the other two, sometimes from albuminoids, and sometimes from substances belonging to the amylaceous and saccharine groups, and all of them represent either steps or side-products of the processes which bring about the metamorphosis of food into tissue, and that again into substances ready for excretion. Our present knowledge of physiological chemistry will not enable us to trace the exact processes and successive steps which lead to the formation of these bodies, but I think it will warrant the assertion that the general process is one of oxidation. In other words, that albuminoids (e. g., roast-beef) entering the body as food, finally leave it as urea, mainly through the instrumentality of oxidation, and, if the oxidation of the received albuminoids is incomplete, we have a diminished proportion of urea, and an increased proportion of uric acid, etc. This condition may be conveniently denominated, after Bence Jones,[1] one of *suboxidation.*

---

[1] *Op. cit.*, and "l'Uricémie," Paris, 1875.

[2] In the blood of two out of three psoriasic patients I found oxalic acid by dialyzing the serum. A dilute solution of chloride of calcium was placed in the outer vessel, and the result was a crop of octohedra, dumbbells, and "spherites" of oxalate of lime.

This incomplete oxidation appears to be, to a certain but limited extent, a normal condition, and suboxidized products are found in very small proportion in healthy blood, and ready for removal by the kidneys; and it is only when they accumulate unduly that they prove harmful. Some of these bodies are themselves, or form in the blood, compounds which are less soluble than the urea, and are not so readily excreted, and hence tend to accumulate. This accumulation occurs whenever renal action is deficient, although the production of the uric acid, etc., may be in normal quantity. Or, on the other hand, over-accumulation may occur from over-production, even when the kidneys are removing from the system the usual proportion of these excreta.

In the former case the kidneys are at fault, and the difficulty arises from either organic or functional disease of these organs, usually the latter. It is probable, however, that the over-accumulation is more frequently due to over-production than to deficient excretion. When this is the case it arises from one of two causes: first, deficient oxidation of a normal supply of ingested albuminoids; or, second, oxidation being normally active, it is still incapable of fully meeting the requirements of an occasional or habitual over-supply of peptones, and hence a quantity of only partially-oxidized and very insoluble products is left in the circulating fluid to be with difficulty excreted.

---

[1] "Lectures on some of the Applications of Chemistry and Mechanics to Pathology and Therapeutics," London, 1867.

This duty the kidneys will perform up to a certain point, and for a certain length of time; but at last failing to be completely removed they seek other channels of exit, chiefly the bowels, but in part also the skin.[1] The bowels, being accustomed to the office of depuration, do not complain when any slight extra demand is made upon them; but the skin, less accustomed to the performance of this function, exhibits its impatience by *pruritus* and its rebellion by *eruption.*

If the supply of ingesta is normally and properly adapted to the body's needs, but oxidation is imperfect, we are compelled to seek deeper for a cause. It is to be found either in a deficient supply of oxygen in the blood, or, if the supply be hygienically sufficient, in a defective utilization of it.

This leads us to inquire how and where the general processes of oxidation are carried on in the body. Without stating the many theories which have been advanced in explanation of this process, I will simply offer the one which seems to me to have the greater probabilities in its favor, to wit, the one recently urged with so much force by Murchison.[2] This writer believes that the liver is the principal seat of the oxidizing processes, and that deficient functional activity of this organ is the *fons et origo* of most of the troubles arising from suboxidation. I have the more readily accepted the views of Murchison, as deductions from a different set of data had previously led me to suspect the liver of being intimately connected with the production of the rheumic diathesis. It is also probable that a certain amount of oxidation occurs in the tissues, and even in the blood itself.

Let us now return with the argument, and in the light of his theory trace a pound of beef from the mouth to the urinal.

---

[1] Gigot-Suard's "Experiments" (q. v.) seem to prove this. G. Bird ("Urinary Deposits," etc.) has observed eczematous eruptions "frosted" with crystals of urate of soda, and I have myself obtained uric acid from the sweat of rheumic patients. Lactic acid has been found in it by others.

[2] "On Functional Derangements of the Liver," London, 1874.

Entering the stomach it is acted upon by the gastric juice and changed into albuminose or peptones.[1] These are received by endosmosis into the portal capillaries, and are conveyed to the liver; here they wholly, or in part, undergo oxidation, and are conveyed thence by the hepatic vein to the vena cava, to the right heart, through the lungs, to the left heart, and from it to the general circulation, through the medium of which they are distributed to the tissues. Here, by further oxidation, perhaps, they become tissue, remain as such for a time, until by still further oxidation they are released from their morphological condition, and reënter the circulation, perhaps as urea, perhaps only as substances capable by still further oxidation of becoming urea, and ready for removal by the kidneys. If, now, these normal processes be anywhere obstructed, we have in the circulation the very insoluble products of deficient oxidation, which, unable to entirely escape by the kidneys, seek a vicarious exit, in part by the skin, and in so doing, give rise to the cutaneous troubles we are considering.

What causes the tendency to deficient oxidation by the liver and other organs concerned? This is a question which we cannot definitely answer. Excluding cases characterized by a deficiency of red corpuscles, anæmia, chlorosis, etc., in which the proximate cause is very evident, we come to others and by far the majority, concerning which we only know that sometimes the difficulty appears to be hereditary, and at other times acquired, and that in either case it is always difficult, and sometimes impossible to remedy, and that our efforts must be confined to controlling its results rather than to eradicating their cause.

There is, however, another important change in the constitution of the blood, and one which results directly from this over-accumulation of sub-oxidized product. Uric, lactic, and oxalic acids, combining with the free alkalies or alkaline carbonate existing in the serum, reduce its alkalinity—that is, render it sub-alkaline. Now, it is well known that processes of oxidation, whether within or without the body, are more readily accomplished in the presence than in the absence of an alkali; in other words, alkalies assist oxidation, and their diminished proportion in the blood-serum and the tissues greatly retards this normal process.[1] The importance of this fact, from a therapeutical point of view, will be immediately perceived.

---

[1] I am considering simply the nitrogenous principles of the beef, not the fats, salts, etc.

This diathesis of sub-oxidation does not manifest its effects upon the skin alone, but also upon the mucous membranes and the joints; and, in all probability, underlies certain chronic organic lesions of the viscera. These, however, do not immediately concern us, and hence will not be specially referred to.

The third question which we are called upon to determine in connection with this diathesis is, the propriety of considering eczema, psoriasis, and pityriasis, among its dependents.

If these affections do depend upon this or any other diathesis or common constitutional condition, we should expect them to exhibit certain general characteristics indicating a mutual relationship. This they do, and the principal features which they possess in common, and which serve to point to this relationship, are the following:

They are not contagious.

They are frequently general; not, however, by simultaneous invasion of the surface, but by spreading from different foci.

They are frequently symmetrical.

They are usually chronic.

Their natural duration is indefinite.

They are obstinate, and do not readily yield to treatment.

They are frequently observed in different members of the same family.

They are frequently observed in different forms in different generations of a family.

Two or more forms may be present at the same time, or may appear successively.

---

[1] Bence Jones lays special stress upon this. A familiar example is the oxidation of sugar in Fehling's reaction, which will not occur except in the presence of an excess of alkali.

They do not always preserve their individuality, but sometimes merge one into the other.

Relapses are frequent.

They sometimes alternate with affections of other organs, especially of the pulmonary and gastric mucous membranes, and of the joints.

They itch.

The lesions are always superficial.

They never leave cicatrices.

They are more or less amenable to certain definite methods of treatment, which have little if any effect upon other cutaneous affections.

These many common features, together with the results of rational treatment based upon indications deduced from the supposed nature of the affections, tend, with increasing experience, to confirm rather than weaken the views which I have now for some years held concerning this diathesis, and the propriety of classing these affections among its manifestations.

TREATMENT.—Having now considered the nature of the rheumic diathesis, it remains to be seen whether we have any means at our command by which it may be counteracted, or its effects in any way modified. The measures which may be adopted for this purpose come under two heads, namely, rational and empirical. The rational treatment will be best understood by taking a retrospective glance at the morbid conditions present and their cause.

In the first place we have the blood surcharged with insufficiently oxidized excrementitious principles, less soluble than urea, the substance into which they would be changed if normal action were taking place.

2. The blood is sub-alkaline.

3. The accumulation in the blood of these excreta is due either to deficient action of the kidneys; or—

4. The kidneys acting normally, these substances are produced in excess.

5. This excess is due either to over-supply of albuminoid food, the surplus not being thoroughly oxidized; or—

6. The nitrogenous ingesta, not being excessive, there is failure on the part of the oxidizing processes to fully perform this function.

7. There are strong reasons for believing that the liver is the organ more particularly at fault in this connection.

The two principal indications, then, are to depurate the blood and to promote oxidation, and these we may expect to fulfill, with more or less success, by means at our command.

Depuration of the blood is to be effected by calling into more vigorous action either the kidneys, bowels, or skin. If the trouble is due to defective renal activity, a point which may be determined by careful estimation of the amount of nitrogen daily discharged in the urea, uric acid, etc., we must treat these organs with some leniency, and be careful not to urge them too much, since by undue stimulation we may increase the difficulties under which they are laboring, and defeat the very object we have in view, to say nothing of the risk of doing more serious damage. We will be obliged, therefore, to depend upon the skin and bowels for the fulfillment of the first indication. The functional activity of the skin is increased by exercise, bathing, and warmth; and is most rapidly and vigorously influenced by the hot-air or Turkish bath. This latter agent, in the absence of extensive eruption, is almost always of service, and, when properly managed, is not liable to be followed by injurious after-effects; it may, therefore, be applied frequently, even daily, with the happiest results.

If the bowels are to be stimulated, we may employ various cathartics, the most useful in this connection, perhaps, being the ordinary senna and salts, given in sufficient doses to produce one or two loose evacuations daily. Hardy praises very highly an infusion of wild pansy (viola tricolor), combined with senna, in about the following proportions:

℞. Violæ tricoloris,	℥ j.
Sennæ,	℥ ss.
Aq. bullientis,	O ij.
M.	

One-quarter to one-half of this quantity to be taken daily, and the amount to be diminished gradually as the necessity for its employment lessens. Hardy states that he has given this purgative for two or three months at a time without ill effect.

In place of these remedies we may employ some of the natural mineral waters, as those of *Seidlitz*, containing sulphate of magnesia largely, without chlorides; of *Pullna*, characterized by its richness in sulphates of magnesia and soda, together with chlorides; or of *Friedrichshall*, containing both soda and magnesia, but less abundantly than Pullna. The native waters which seem to approach most nearly in chemical composition to those above noted are the *Estill* and *Crab Orchard* Springs of Kentucky.[1]

This active purgation, however, I believe is rarely required, the condition necessitating it (defective renal action) being the exception, and by no means the rule, as numerous quantitative analyses have indicated a normal excretion of nitrogen.[2]

If the kidneys are perfectly healthy, we may leave the bowels entirely alone, and call upon the former to perform most of the depurating work. This is effected by diuretics, and the ones specially serviceable in this connection are vinum colchici, infus. digitalis, vinum caffeæ viridis,[3] balsam of copaiba, propylamine, carbonate of lithia, and vichy.

---

[1] We know so little concerning the native mineral waters, that it is difficult to speak confidently as to their effects. Many of them, especially those of this State (New York), contain a large proportion of lime (sulphate and carbonate), which does not appear to me to be a desirable ingredient, except, perhaps, in certain special conditions not connected with skin-diseases.

[2] This statement is chiefly based upon urea determinations. The quantitative analysis of uric acid being tedious, and often unsatisfactory, has not been so frequently employed.

[3] I first learned the value of this preparation in Gigot-Suard (*op. cit.*), and have it prepared as follows: One pound of ground unburned coffee is added to a quart of good sherry, and left to digest for two weeks. The mixture is then filtered through flannel, and the residue subjected to pressure, and enough fresh wine is added to make a quart. Dose, ℥j or ℥ij *per diem.* This wine is prepared for me by Mr. B. W. Dyer, No. 460 Fourth Avenue.

These remedies, one and all, appear to exert a marked influence upon the urine, notably increasing the amount of solids daily excreted in this fluid. They are, moreover, among our chief reliances in gouty and rheumatic conditions generally. The carbonate of lithia and vichy, besides being diuretic, tend in addition to restore the normal degree of alkalinity to the blood, and by their presence as alkalies to assist oxidation. These different diuretics may be used singly or combined, and for a considerable period. Lithia and vichy, however, and alkalies generally, if too long employed, tend to impoverish the blood by diminishing the number of red corpuscles. To obviate this, the use of the benzoate of lithia, combined with iron, has been suggested. A better plan, however, if we anticipate a prolonged use of alkalies and other diuretics, is to intermit their employment for one or two weeks out of each month, giving iron if necessary in the intervals.[1]

Having put in force the measures necessary for the depuration of the blood, and the reëstablishment of its normal alkalinity, attention must be directed to the question of oxidation.

If the conditions present be simply due to incomplete oxidation of an excessive amount of albuminoid ingesta, the course is very clear. It is only necessary to diminish the proportion of this kind of diet. In other words, cut off the meat to a greater or less extent, and substitute for it a larger quantity of bread, vegetables, and fats. Some of these patients are exceedingly fond of meat, and eat it in large quantities, and are sometimes inclined to rebel against restriction of their diet. The quantity of meat eaten by many persons is greatly in excess of the real bodily needs. And this excess being of no service is pretty apt to do harm, and soon brings the patient in contact with his physician. In these cases, then, our principal effort should be to induce the patient to modify his diet in the way suggested, and, even if he is a little rebellious at first, it is surprising how soon he becomes reconciled to the changed conditions, and frequently loath to return to his former habits.

---

[1] It must be remembered that we are dealing with chronic conditions and treatment to be effectual must be continued for a long time.

If, on the other hand, but a moderate quantity of nitrogenous food is ingested, and even this is incompletely oxidized, it will be necessary to institute measures specially designed to increase oxidation. The red corpuscles being the vehicles by which the inhaled oxygen is distributed to the different parts of the body, it is, of course, of the first importance that they should be present in normal quantities. Any notable deficiency in this respect is easily ascertained, and may usually be remedied to a great extent by the use of preparations of iron. This being accomplished, we must endeavor to insure a full supply of oxygen by exercise in the open air, good bedroom ventilation, and the like. In addition we may attempt to furnish oxygen directly to the blood by inhalations of the pure gas, or better, perhaps, by inhalations of oxygen, a small portion of which has been rendered more active by ozonation. Further, we may employ certain medicines which contain oxygen largely, and are believed to be capable of giving it up to the blood, as, for instance, the chlorate of potassa. The alkalies already mentioned, which by their presence assist oxidation, are appropriate adjuvants.

Finally, if the liver be torpid—that is, functionally inactive—we may have recourse to the occasional, and, in some cases, frequent use of cartain drugs which have the reputation of being hepatic stimulants, as mercury, podophyllin, etc.

The above outline of treatment is certainly the one which the conditions supposed to exist would naturally suggest. I should hesitate, however, to offer it, even with personal experience in its favor, were it not that there is abundant corroborative testimony from other sources in favor of each and every one of the remedies mentioned. The value of cathartics, of diuretics, of alkalies, of chalybeates, and of hepatics, as isolated remedies in the affections embraced in this diathesis, is recognized by almost every modern writer, and their employment counseled under various circumstances. Heretofore their use has mainly been empirical, and not founded upon preconceived views as to the special indications which they fulfilled.

Their acknowledged clinical value, however, is strong presumptive evidence of the at least approximate correctness of the theoretical views that have been expressed, and should induce us to seek further for remedies still better adapted to fulfill the indicated requirements.

It is not of course supposed that in any given case all of the drugs mentioned will be required, but the happiest results are to be expected from their judicious selection, combination, and alternation.

The treatment which I have here advocated for the affections belonging to this group is intended to replace the method which, until recently, has received almost universal adhesion. I allude to the treatment by arsenic.

Arsenic has been and is still by many, perhaps by most, regarded as the sheet-anchor in the management of these affections. Its reputation is based upon the fact that it has the most undoubted control over many of the manifestations of this diathesis; a control evidenced by the prompt removal, in many cases, of the visible lesions and other appreciable symptoms. But does it, in addition to this, exert any influence upon the constitutional conditions which underlie them? Does it in the slightest degree tend to prevent their relapse? I have never been able to perceive that it did. In my earlier experiences I employed arsenic largely, and obtained the effects usually ascribed to it; gradually I used it less frequently, and at present prescribe it but seldom, and have no hesitation in saying that the arsenical treatment of these affections, though often more prompt, is on the whole less satisfactory than the method which I have here detailed.

The foregoing refers simply to the internal treatment of the rheumic affections, but it must not be supposed that dependence is to be placed upon it alone. On the contrary, local treatment is of service in almost every case, but can only be considered in connection with the special affections themselves.

22

BATHS, AND THEIR USES IN THE TREATMENT OF DISEASES OF THE SKIN.

VALEDICTORY ADDRESS

TO THE

CLASS ON DISEASES OF THE SKIN

AT THE

Philadelphia School of Anatomy and Surgery,

JANUARY 16, 1878.

BY

JOHN V. SHOEMAKER, A.M., M.D.,

LECTURER ON DERMATOLOGY AT THE PHILADELPHIA SCHOOL OF ANATOMY AND SURGERY,
PHYSICIAN TO THE PENNSYLVANIA FREE DISPENSARY FOR
DISEASES OF THE SKIN.

PUBLISHED BY THE CLASS.

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
1878.

CORRESPONDENCE.

Philadelphia School of Anatomy,
January 19, 1878.

At a meeting of the Students of the Class of Dermatology, held Jan. 19th inst., it was unanimously

Resolved, That it affords the Class much pleasure at the conclusion of this course to express its appreciation of Dr. Shoemaker's able and practical method of teaching Diseases of the Skin.

Resolved, That a committee be appointed to request for publication a copy of his excellent and appropriate valedictory address, delivered Wednesday evening, Jan. 16th inst.

J. MOORE CAMPBELL, *President*.

A. M. Gontner, *Secretary*.

Dr. J. V. Shoemaker.

Dear Sir: We, the undersigned committee, in compliance with the resolution of the Class, earnestly request that you will permit us to publish your interesting and instructive address on *Baths*. Hoping you will find it agreeable to comply, we remain,

Very respectfully, yours,

COMMITTEE,

A. H. Hulshizer, New Jersey.
Thomas Carrier, New York.
James Duggan, Georgia.
J. W. Hill, Kentucky.
Frank Kilburn, New Brunswick.
John D. Nicodemus, Maryland.
J. C. McKenzie, North Carolina.
H. F. Praeger, Sweden.
John Walters, Arkansas.
James Bean, M. D., Massachusetts.
J. W. Gordon, Pennsylvania.
P. W. Tomlinson, Delaware.
James Hutchinson, Ohio.
Geo. W. Winterstine, Pennsylvania.
Alton Sawyer, Maine.
Jose M. Morales, Central America.
R. J. Hamer, Missouri.
D. W. Hurford, Illinois.
John G. Stair, Indiana.
C. G. Savage, Tennessee.
H. A. Borus, Kansas.
C. F. Smith, West Virginia.
J. M. Wilson, Ohio.
J. T. Stewart, Kentucky.
C. H. Cates, Maine.
J. D. Hillis, Indiana.
James Lowry, Pennsylvania.
C. W. Tinker, Minnesota.

1031 Walnut St.
Philadelphia, Jan. 23, 1878.

Gentlemen: In reply to your note and accompanying resolutions, permit me to express my grateful acknowledgments through you to the members of the Class. My constant aim has been to advance your interests in the department of Dermatology, and if my efforts have been to any extent successful, the knowledge of that fact is ample reward. I cheerfully submit the manuscript to your disposal, relying for its acceptability rather upon the interest of the subject than the merits of the address. I trust it may awaken in you, and others, an appreciation of the importance of baths as a therapeutic agent in cutaneous diseases.

Begging you to present to the Class my cordial thanks for this mark of kindness.

I remain, very truly yours,

J. V. SHOEMAKER, M.D.

ADDRESS.

GENTLEMEN: The session has drawn to a close after a careful clinical study of the most important diseases of the skin. You have seen and examined a large number of patients, and have observed in many of these the good results of treatment. The short time that has been allotted to the course, has prevented my dwelling to any considerable extent upon baths, one of the most valuable remedies in affections of the skin. The large majority of patients that have been before you when questioned about bathing, have usually replied that they never bathe the whole body; while others have acknowledged that an interval of years elapsed between their ablutions. It will be seen, therefore, that in general but little attention is paid to keeping the skin clean by regularly using the bath. I propose to conclude this course with a description of the various baths and their uses in diseases of the skin.

Baths come from the most remote ages. The human race had its origin in the East, and from the Orient abundant evidence has been furnished showing that the bath has been known from the earliest existence of man. Bathing was practised by some of the oldest nations after ceasing from sorrow and mourning, and at the conclusion of battle. The practice of bathing was enjoined by Jewish laws. Bathing was a religious duty, especially referred to in the Old Testament. Homer sings the praises of the bath in the Odyssey. Herodotus writes of the Scythians using it during the Trojan war.

Phœnicia is mentioned as the common centre of the bath, and from this ancient country it radiated in all directions. Remains of it have been observed near ancient Nineveh. It passed south into Arabia, and also northward into the immense Russian Empire (where it still exists). It extended to Finland, Lapland, Sweden, and Norway. The knowledge of the bath spread along the coast of the Mediterranean into Egypt, and Alexandria contained at the time it was seized by Caliph Omar 4000 baths. The works of the large and rare library of this city numbering 700,000 volumes were used as fuel to heat these baths.

On a small strip of land, Mauritania, in the northwest of Egypt, where lived an ancient people known as the Moors, are still seen ruins of the ancient bath. It is supposed that the Moors carried the bath into Spain, as an old law existed there forbidding the Moors and Jews bathing with the Christians.

The bath can be traced still further by following the northern coast of the Mediterranean from Phœnicia to Greece. In this classic country baths were attached to the gymnasium, and were known and celebrated for their magnificence. They first existed among the Spartans, the most hardy people of Greece. Thence they spread to Athens and other states.

The Romans, after conquering Greece, carried back with them the knowledge of the bath. In Rome the bath became not only the great health-restoring agent, but the luxury and pleasure of her people. The city of Rome at one time contained about 900 baths. She was at this period mistress of the world, and baths were established in all her provinces, even the most remote. It was under this imperial government that baths reached their perfection. No country in all the world has equalled Rome in her baths. The emperors built public baths that rivalled the temples of the gods in their magnificence. They sought the love and respect of their subjects by furnishing healthful and pleasurable places of resort for all classes. One of these baths named Caracalla is said to have been one mile in circumference. The baths of Diocletian were the most magnificent of all. One hundred and forty thousand men were engaged for many years in constructing this immense and sumptuous establishment. It was supported by 200 superb marble columns, and decorated by the choicest marble and alabaster from distant parts of the world. Its arches were lofty and beautiful. The rarest sculptuary and paintings by the masters adorned its walls. It is said to have accommodated 2000 people. Seneca states that the baths of the plebeians were adorned by silver pumps, and their patrons even walked upon precious gems.

These spacious halls, once the scenes of mirth and gayety, of dancing and music, are now silent in decay. These masterpieces of architectural skill, with their lofty domes, fine columns, and their sculptured beauties, paved with the rarest and most beautiful kinds of marble, where emperors, senators, philosophers, poets, patricians and plebeians, bathed in common, are now a mass of ruins. Although ancient Rome is no more, still these memorials of the cleanliness of her people remain to mark her greatness.

The Romans introduced the bath into Great Britain and France, when Julius Cæsar overran both Gaul and Britain. Before the conquest of the eastern part of the Roman Empire, the Turks were said to be a degraded clan of barbarians, having filth for their law; but on capturing Constantinople, they found the bath and ordained its use by law. From having been the most unclean nation they soon became recognized as having carried the art of cleanliness to high perfection. Baths are found in all the Turkish provinces, and the Sultan and princes endow these bathing establishments for the honor of having their names attached to them.

I might, in passing, describe this Roman or Turkish bath, which consists of five essential apartments. The whole process of bathing occupies from one to one and a half hour. The first chamber is used for the purpose of dressing and undressing. It is the Apodyterium of the Greeks and the Vestiarium of the Romans. After the apparel has been removed from the body, you are attired in the bathing costume, which consists of soft towels in order to absorb the moisture. One is wound around the groins, another is wrapped around the head, forming a turban, while a third is thrown like a scarf over the shoulders. The feet are covered with wooden shoes. With two attendants, one on each side, you enter the second chamber, the region of steam. This is the Tepidarium, where the temperature varies from 100° to 120° F., you are conducted to a cushion that is placed against the wall, and the attendants now serve you with coffee and pipes.

The perspiration starts and flows freely, bathing the surface of the body in moisture. The air is calm, agreeable, and very soothing. A sense of pleasure and comfort follows, shutting out all the cares, anxieties, and memories of the external world. The attendant now conducts you into the inner chamber, the Calidarium, or hot room. The temperature is generally about 140° F. You are here divested of all covering save the towel around the groins. The saloon is a curling mist of gauzy vapor, and the occupants can be seen like spectres passing to and fro by the light that streams through the stained glass in the dome. Cold water is drunk freely, and replaces the aqueous elements passed off in the perspiration. The delightful sensations experienced far surpass the luxury in the preceding apartment. The songs, shouts, and revels of enjoyment can be heard vibrating through the spacious chamber. While the perspiration is actively flowing from all the pores, the attendant begins the operation of shampooing with camel's hair gloves. It is by this kneading, rubbing, and stretching of the joints that the circulation is equalized and the effete material forced to the surface.

You are passed from this apartment into the *Lavatarium.* An attendant approaches with a wooden bowl filled with soap, and lathers the head and body copiously. The body is then thoroughly washed with an abundance of water which is showered down from the wall overhead, beginning with warm, following with tepid, and ending with a cold wave. Glorious! is generally the delightful expression that the bather gives vent to, as the process comes to an end. The wet towel that encircles you is exchanged for a dry one, and you are conducted by the attendant to the outer chamber, the Frigidarium, or cooling room. The air in this saloon is of the normal temperature, and rest follows, a light covering being thrown over the body until it returns to its natural heat. The attendant now appears with coffee, pipes, and fruit; and, if you feel inclined, a full meal is presented. While the coffee is sipped, another attendant, with a fan of feathers, drives cool air upon the body, and the clean surface now fully absorbs oxygen; while still another with an instrument rapidly pares the nails of the hands and feet, and all callosities on the latter. The bather is now taken to the apartment for his toilet, which he quickly performs, and leaves the bath cheerful and happy both in mind and body.

Let us now return to our historical account of the bath. It likewise existed, although to a less degree of perfection, in the various parts of the world, even among the rudest nations. In the earliest history of the Western hemisphere, rude baths were discovered among the natives. Historians say that North America was originally inhabited by some of the lost Ten Tribes of Israel. That the *Israelites* were well acquainted with the bath, is shown by the discovery of interesting remains, and by the fact of their religious laws in reference to bathing. It is supposed that some of these ten lost tribes passed from Asia, across Behring's Strait, to America, and that they carried the knowledge of these baths with them. That the Indians were Israelites has been judged by the fact that they worshipped the Great Spirit, and were not idolators, like the other pagan nations inhabiting the Eastern Continent. It has likewise been shown that some of the words of the Indian language were similar to the Hebrew, and that a marked resemblance was evident between the customs of the two nations.

It will be seen that, as civilization advanced, so the knowledge of the construction of the bath, with its apartments for the application of heat, vapor, soap and water to the body, was carried to the most distant and remote parts of the world. Although the nations of to-day have made many modifications and additions to the bath, still the best they offer cannot compare with those of ancient Rome.

Having given you a brief historical *résumé* of the bath before considering its various forms, it will be necessary to call your attention to the structure and function of the skin, and the importance of maintaining it in a healthy condition.

The skin is one of the great organs of the body. It is the outer envelope of the human frame. It serves to protect the internal structures, and supports within the tissues, its own special organs. Seven millions of ducts or pores open upon its surface, and drain the sebaceous and sudoriparous glands. The ducts of these glands, if placed end to end, would stretch over thirty miles. The sebaceous glands secrete and discharge an oily fluid which lubricates and keeps the hairs in a glossy condition. It likewise gives the skin its soft and velvety appearance.

The sudoriparous glands discharge daily about two pounds of an excrementitious fluid, in the form of insensible perspiration, which quickly evaporates, and assists in regulating the temperature of the body. The skin is abundantly supplied with bloodvessels. By myriads of capillaries, the blood is brought rapidly to the surface, and eliminates carbonic acid, and breathes in oxygen. The skin, therefore, assists the lungs in supplying the blood with oxygen, and in casting off the carbonic acid. When this vital fluid is surcharged with any poisonous principle, one means of exit is by the sebaceous and sudoriparous glands.

The skin is not only very vascular, but it is also highly sensitive, owing to the distribution of the vast network of nerves and lymphatics over its surface.

The three great blood purifiers of the body are the skin, liver, and kidneys. Should any one of these not act properly, the remaining two have double duty to perform, which generally leads to disease, and sometimes ends in death. This is well shown when about one-third of the body is burned, causing the death of the patient from the skin not being capable of performing its proper function. In fact, to be in health, the skin must perform its office completely and efficiently. This is well established by the following important historical event. During the Dark Ages, when Leo X. ascended the pontificate at Florence, a young boy was gilded all over, in representation of the Golden Age. The injurious effect of the sudden arrest of the function of this organ resulted in the speedy death of the child.

The bath not only cleanses the body, but preserves the health, prevents and assists in the cure of disease by draining from the skin the impurities that have been cast out by the system. Many persons, in consequence of occupation or neglect, do not take the proper amount of exercise, and therefore never perspire. In these same individuals the hands and face that are alone visible receive daily ablutions. The clean shirt is put upon the dirty body, the hair brushed, the shoes polished, and so the person is pronounced neat and clean in comparison to the dirty laborer; but the filth remains unseen upon the body covered by the clean linen.

Contrast the condition of the laborer, and it will be found that he perspires freely and so drains off daily all the excrementitious material of the body. At the end of the week, although an offensive odor is given off of his garments, still the body is in good working order. As a result of this healthy action of the skin, he is both strong, vigorous, and is absolutely cleaner than those who neglect bathing but change their garments daily. The action of the skin is arrested among a large class of ladies who try to add charms and beauty to their person by using such poisonous substances as paints, cosmetics, and enamels. They generally destroy whatever good looks were previously possessed by stopping up the pores of the skin. The skin of the face loses its olein from the sebaceous glands, and becomes harsh, wrinkled, and assumes a yellowish appearance. If the bath, Nature's true beautifier, had been used constantly in place of these noxious substances, these evils might have been avoided.

Can the body remain in a healthy condition when its surface is coated over with its used-up products? Can the process of elimination from the system go on when all these drain pipes of the surface are plugged up? Can the human frame enjoy perfect health when these effete materials are absorbed by the blood? It is evident that one in this condition cannot receive the proper amount of oxygen. The extra work is now thrown upon the lungs and kidneys, which are taxed beyond their capacity, making disease inevitable. The viscera may suffer, but it is more than probable that the morbid action will be spent upon the skin.

The same principle applies to the hair. It seldom receives the proper amount of attention. The sebum is frequently thrown out and forms scaly masses that we call dandruff, which plugs up the follicles and kills the hair in its growth. Curling and crimping the hair likewise interfere with its growth, and render it brittle and lustreless. It is also injured by being covered up in close fitting hats and bonnets. The hair is a protection to the human being just as it is to the animal, and should be exposed to the air, which strengthens and thickens it. Lastly, it should be regularly cleaned by bathing like the rest of the body, so as to wash off the effete material that exudes from its surface. In the East the ladies have their luxuriant hair thoroughly washed at the bath.

Having described to you the bath from its earliest existence, and also the evil effects resulting from its neglect, it is now my purpose to call your attention to some of its forms used in affections of the skin at the present day. The bath in the treatment of diseases of the skin is regarded as having a powerful influence in restoring the body to health. Mr. Fox states that skin diseases should be much more systematically treated by baths than they are. Neumann adds, we place by far the greatest value upon external treatment; water, in the form of baths, douches, etc., being a very important remedy.

Among the different kinds of baths are the vapor, the simple water (hot, cold, warm, and tepid), the medicated, the shower, the douche, the electric, the mud, and the sand bath. For alleviating and assisting the cure of diseases of the skin, the hot air bath, the vapor and the water, simple or medicated, are all that are requisite.

The hot air bath is one of the most useful forms. Some hospitals are provided with it, and it may be had in some bathing establishments in this and other cities. The following is a very brief description of its construction. It consists simply of a closed chamber about ten feet long by six wide, and ten feet high, provided with the proper means of ventilation. The heat is conveyed to it by means of flues carried around the entire chamber, and consequently the heat radiates from all sides. The temperature maintained is from 130° to 140° Fahr. In many instances you will not have one of these establishments in your midst, or if you have, perhaps your patient will not be able to leave home. In either case the simplest and easiest way of giving a hot air bath is to place your patient in the nude state on a cane-bottom chair with a blanket folded around the body. A spirit lamp of good size is then burned beneath the chair, at the same time care being taken that all the heated air is retained; copious perspiration soon follows and may continue for ten or fifteen minutes. The patient should then be rubbed dry and placed in bed between warm sheets or blankets.

In dryness of the surface of the skin, or anidrosis, and in eczema squamosum, when the surface is rough and covered with scales, it is a most important treatment, acting by arousing the skin to perform its proper function. In simple pityriasis it softens and detaches the scales and also awakens the dormant skin to activity. By the removal of these scales in all squamous affections, the diseased surface can be properly medicated. It cleanses the skin, opens the sudoriparous and sebaceous glands, and equalizes capillary circulation.

The vapor bath is constructed in a similar manner to the hot air bath, except that vapor is conveyed by means of pipes to the chamber, in place of the hot air. It is administered at a temperature of from 115° to 140° Fah. It can be given cheaper and more conveniently, in general practice, after this manner. The person, after removing clothing, sits upon a cane-bottom chair, a blanket is pinned around the body from the neck to the feet; a vessel of some form (the common tin pan being the very best), containing boiling water, should then be slipped under the chair, and red-hot stones or bricks dropped in this water. The vapor rapidly ascends, and the body is soon in a profuse perspiration. The vapor may be impregnated with medicine. This can be accomplished with an apparatus commonly used, and can be obtained at any instrument maker's. It consists of a small tray, on which the drug is placed, surrounded by a circular groove, filled one-third full of boiling water. A spirit-lamp is made to play upon both tray and groove; the steam and medicinal vapor ascend and surround the body at the same time.

In absence of this contrivance, the medicinal substance, if soluble, can be dissolved in water, and then evaporated by the spirit-lamp. A very simple apparatus can be made by taking a shallow vessel partially filled with boiling water, and placing it in a red-hot brick. The medicinal agent can now be sprinkled on the brick, and the result follows that has previously been described. About fifteen minutes is sufficient for a vapor bath. It can be impregnated with mercury, sulphur, and likewise many other medicinal agents.

Should a mercurial vapor bath be desired, twenty grains of calomel are usually sublimed. If a sulphur vapor bath is required, from one to two ounces of sulphur can be used.

In acne, the simple vapor bath stimulates the action of the absorbents, and so facilitates the removal of the sebum. In the same disease, when the skin becomes harsh and rough from its action being suspended, the vapor bath speedily assists in restoring it to its soft and pliable condition. The vapor bath is of great value in eczema and prurigo, when there is great heat and dryness of the skin.

The sulphur vapor bath is a remedy of great value in some cutaneous diseases. In scabies, or itch, it frequently destroys the insect, and by so doing soothes the irritated skin, and cures the disease. It is a most important and useful auxiliary in the treatment of chronic scabies. It never irritates the skin in this affection, while the long-continued use of an ointment often produces a secondary eruption. The mercurial vapor bath is invaluable in syphilitic eruptions of the skin; especially when the internal use of mercury gives rise to irritation of the alimentary mucous surface, the drug must then be discontinued, owing to weakened digestion and diarrhœa, and the bath substituted in its place. If the patient is of fair strength, the bath can be taken every night; and if a less effect is desired, it can be used about twice a week. On coming out of the bath, in order to leave on the skin the particles of mercury that have been deposited there, the surface should not be dried. Clean linen should be put on, and the patient sent at once to a warm bed. The value and efficiency of the mercurial vapor bath in obstinate cases is well described by the eminent surgeon, Prof. S. D. Gross. In his great work on Surgery, in referring to the constitutional treatment of syphilis by mercurial fumigations and the mercurial vapor bath, he says: "I can testify from considerable experience to the beneficial effects of these two methods of mercurialization, having effected some very extraordinary cures with them, after all other rational means of treatment had failed."

The hot water bath has a temperature of from 98° to 112° Fah.; the warm bath from 94° to 98°; the tepid from 85° to 94° and the cold from 40° to 65° Fah.

The hot bath is of great service in smallpox, chickenpox, measles, scarlet fever, and, in fact, all the acute specific diseases, when the eruptions do not appear properly, or should suddenly disappear. In diseases of this description the poisonous material in the circulation, instead of being thrown upon the skin, attacks the internal mucous membrane, and excites visceral irritation. If the patient is now placed in a hot bath, the blood that is surcharged with poisonous elements is quickly determined to the skin by the action of the heat. The viscera that have been engorged now become relieved by the skin acting freely. It is often that the suspended function of the skin in these cases, together with the visceral irritation, causes the death of the patient. In phlegmonous erysipelas, and in all forms of disease, after using local bloodletting, a hot bath favors the flow of blood from the part, and relieves the congestion and stagnation. The hot bath is a most advantageous remedy in the treatment of itch. Dr. McCall Anderson, before using the ointment in itch, lays down, as a most important rule, for the patient to sit in a hot bath for twenty minutes; or, if he cannot get a bath, to wash himself thoroughly with hot water. During the course, you have seen cases of obstinate eczema with the integument dry, rough, and thickened, rapidly improve by the use of the hot sea bath. This bath is decidedly better than using the sapo viridis for stimulating the absorbent vessels to renewed action; the products that have been deposited in the skin are quickly carried off.

The warm bath is a most potent remedy in all scaly diseases of the skin. It frees the surface of scales in ichthyosis, or fish-skin disease. In this affection, the detached epidermic cells become piled up, and it is only by the bath that the skin is aroused to its proper action. The free use of the warm bath in psoriasis constitutes a part of the local treatment; the scales become softened, so that they are readily detached from the red and infiltrated patches of the true skin. The thickened covering formed by these scales prevents the remedies from acting properly; but when they are removed by the bath and medicinal agents are applied, the beneficial effects are soon observed. The warm bath will likewise be indicated in lousiness and pustular diseases, when the patient is pale, and shows marked signs of debility.

The tepid bath is most invigorating and agreeable in the eruptive fevers, when the disease has reached its height and the skin is hot, dry, and covered with inflammatory products. A tepid bath, or sponging the surface with tepid water, is suited to cases of this description, and is generally followed by a marked diminution of the fever. In addition, it gives comfort and enjoyment to the patient. At the termination of smallpox this bath favors desquamation and tones up the system. It is decidedly one of the best remedies in the treatment of acute eczema, and materially assists in the cure of elephantiasis, strophulus, herpes, and lupus.

The cold bath acts as a stimulant. It excites a powerful action upon the nervous system by the reaction that it produces, and is therefore of great value in neuroses of the skin. It is a most advantageous addition in the treatment of purpura by having a styptic effect upon the blood. It produces a contraction of the capillaries, driving the blood from the surface, and being attended with good result. In erythema it diminishes the sensation of tension which is present. It is of good service in burns and chilblains, and is attended with marked success in the treatment of alopecia. In seborrhœa the best results are sometimes obtained by using the cold bath, the cold causing the enlarged glands to contract. Should the eruption in ecthyma be abundant, the subject young and plethoric, the use of the cold bath will diminish the inflammatory action.

Lastly, we consider the medicinal liquid baths. They are of various kinds according to the agent employed. Among the important substances used for medicating baths are bran, starch, bicarbonate of sodium, nitric or muriatic acid, iodine, iodide of potassium, bromine, sulphuret of potassium, mercury, etc. The temperature of the water should be about 90° Fahr. The amount of water used in the bath should be from twenty to thirty gallons. It may be rendered emollient by the addition of three pounds of bran, or one pound of starch. It can be made alkaline by adding two ounces of bicarbonate of sodium, or acid by one ounce of nitric or muriatic acid. A mercurial bath can be prepared by using a drachm of the bichloride of mercury and the same amount of hydrochloric acid.

Iodine and bromine baths are of great utility; the former can be made by adding one drachm of iodine with two ounces of liquor potassæ, and the latter by using twenty drops of bromine with two ounces of iodide of potassium to the usual quantity of water. The sulphuret of potassium bath is especially serviceable in many cutaneous diseases, and it is made by using two ounces of sulphuret of potassium to each bath.

The emollient bath can be used with great advantage to soothe the irritation in urticaria, lichen, prurigo, and in all erythematous and itching affections of the skin. In chronic cases of eczema it acts with a happy result in checking the excessive weeping of the surface.

The alkaline bath allays irritation and diminishes hyperæmia of the skin. It is of great aid in the treatment of inveterate cases of psoriasis, pityriasis, and ichthyosis, by removing the scales that have become piled up on the surface of the skin. It is likewise of importance in removing the irritation in parasitic diseases, copaiba rash, herpes, and chronic lichen and urticaria.

The acid bath is useful in prurigo and chronic lichen when there is much infiltration into the skin. It stimulates the indolent surface by arousing the circulation and the absorbents to a healthy action, and so removes the poured-out products. Iodine, bromine, iodide of potassium, and sulphuret of potassium baths are the best remedies for the treatment of alterations in the pigment of the skin. In leucoderma, or deficiency of pigment, the iodine bath is of great benefit by assisting in toning up the skin to its normal condition. These same baths are of the greatest service in the treatment of freckles, sunburn, excess of pigment in the skin, and discolorations from applications and various diseases. The bath acts by slightly stimulating the skin, and so removes the pigmentary discolorations. It has been observed that mirror silverers, whose system has been drenched with mercury, quickly improve by using the iodide of potassium bath. The sulphuret of potassium bath is particularly beneficial in chronic scabies, and all pruritic affections of the skin. The mercurial bath often acts well in the treatment of obstinate syphilitic eruptions. It awakens the action of the absorbents and increases the resorption of infiltration.

That the skin can absorb the fluids that come in contact with it while bathing is at present maintained by some very high authorities. Madden has demonstrated that after a bath the body has increased in weight to the amount of five drachms. Henri has shown that when the iodide of potassium was added to the bath some of it was absorbed into the system.

In giving a bath certain precautions are necessary. Those affected with pulmonary diseases should exercise moderation in bathing. A bath should never be taken upon a full stomach. At least three hours should elapse after a meal before bathing. The best time for bathing is in the evening, or before breakfast. The period for remaining in the bath should be short, and the individual should be guided by the temperature of the medium in relation to the heat of the body. It is well known that hard water is irritating to a sensitive skin, and, therefore, in a simple bath, soft or rain water should always be used. The cold bath is often injurious to the old, the very young, and in the delicate, as it increases the debility. It may likewise be injurious to persons advanced in life, by having the blood suddenly driven from the surface to some of the internal organs. Hence tepid bathing is more appropriate for elderly people. You should always ascertain if the bath benefits your patient. If it leaves a general glow over the surface, together with an increase in vigor, it is usually beneficial.

Finally, gentlemen, as you are now about to enter into the practice of your profession, see that this most neglected means of health receives some attention. It is essential to the physician to understand the art of bathing. You can then point out how it prevents disease, restores the body to health, and in many cases modifies the action of remedies. Bathing has been allowed to degenerate. The bath has no existence as a public resort in our country. The government, state, and city take no interest in keeping the bodies of their subjects clean and healthy. Public officials of to-day aim only to acquire and hoard up wealth, and thus perpetuate themselves in power. Extravagant and magnificent establishments are erected and supported for their comfort and pleasure, instead of using some of the means in providing suitable health resorts for the public. Thus the period is fast tending to luxury and effeminacy. If the civil authorities would devote a portion of the vast amount of money that is annually squandered to providing suitable bathing establishments, the people would be more hardy and vigorous.

Hospitals and asylums are erected for the sick, the superannuated, the insane, and the intemperate, but no one thinks of erecting a public bathing establishment for health and cleanliness. As you are now about to leave this school and settle in distant portions of the country, carry with you and promulgate the maxim of Socrates, that "bathing renders a man pure both in soul and body." Lend your aid to the erection of public bathing resorts. Not alone in our cities should the profession consider the propriety of erecting baths, but it is also an important matter for the rural districts and remote settlements.

The bath renders the body more healthy, and life a pleasure. It mitigates suffering, soothes pain, lessens disease, and affords comfort to the poor. Lastly, it is one of our most valuable therapeutic agents in the treatment of cutaneous diseases.

ANNOUNCEMENT

OF THE

DEPARTMENT OF DISEASES OF THE SKIN

AT THE

PHILADELPHIA SCHOOL OF ANATOMY,

1024 Hunter Street,

AND THE

PENNSYLVANIA FREE DISPENSARY FOR DISEASES OF THE SKIN,

920 Walnut Street.

No. of patients brought before the Class during	winter	session,	1877–78,	83
" students, members of the Class	"	"	"	100
" certificates of Dermatology issued	"	"	"	61

A committee, consisting of Drs. Shoyer, of Kansas, Graham, of Utah, and Van Valzah, of Philadelphia, after a competitive examination held Jan. 23, awarded a prize, "Neumann's Handbook of Skin Diseases," to D. Emmett Welsh, of Columbia, Pa., with honorable mention of J. G. Stair, of Battleground, Ind.

The Summer Course of Lectures on Diseases of the Skin will begin Friday, March 22d, 1878, at 4.30 P. M., at the Penna. Free Dispensary for Diseases of the Skin, 920 Walnut Street.

PENNSYLVANIA FREE DISPENSARY FOR SKIN DISEASES.

OFFICERS OF THE DISPENSARY.

BOARD OF MANAGERS.

WM. H. PANCOAST, M.D.
J. AITKEN MEIGS, M.D.
J. B. BIDDLE, M.D.
HON. A. K. McCLURE.
C. W. McKEEHAN, Esq.

SECRETARY AND TREASURER.

C. W. McKEEHAN, Esq., 524 Walnut Street.

CONSULTANTS.

WM. H. PANCOAST, M.D.
J. M. DA COSTA, M.D.
S. W. GROSS, M.D.
F. F. MAURY, M.D.

PHYSICIAN IN CHARGE.

J. V. SHOEMAKER, M.D., 1031 Walnut Street.

ASSISTANT PHYSICIAN.

J. H. SARGENT, M D.

MICROSCOPIST.

HENRY LEFFMAN, M.D.

DISTRICT PHYSICIANS.

J. H. WILLIAMS, M.D.
R. K. HINTON, M.D.
A. S. ERNEY, M.D.
W. C. SPERRY, M.D.
J. H. BEAN, M.D.

ARTISTS.

WILLIAM EARL SMITH.
HUBERT FRANCISCO PRAEGER.

APOTHECARY.

FRED. A. FELLOWS.

COLLECTOR.

DAVID WILLIAMS.

CLASS ON DISEASES OF THE SKIN.

WINTER SESSION OF 1877-78.

Barton, G C. ....Saluvia, Pa.
Bartholomew, Cornelius........Bath, Pa.
Bean, James H., M.D....Medford, Mass.
Bell, Edward S..........Zanesville, Ohio.
Berkey, N. G. ....Johnstown, Pa.
Bickel, Geo. H.....Sinking Springs, Pa.
Borus, H. A..........Manhattan, Kansas.
Boyer, J. H. ....Mechanicsburg, Pa.
Bowman, Robert.........Kittanning, Pa.
Bready, John E.........Germantown, Pa.
Brundage, C. R.............
Bryan, John S. ....Doylestown, Pa.

Campbell, J. Moore.........Sunbury, Pa.
Cates, C. H.......................Bangor, Me.
Carrier, Thomas H........Oswego, N. Y.

Day, H. B. ....Prosperity, Pa.
Davis, J. G.......................Indiana, Pa.
Donnelly, M. A..........Philadelphia, Pa.
Davis, Henry................Camden, N. J.
Drake, H. H...................Lansdale, Pa.
Duggan, Jas. R. ......Saundersville, Ga.

Fellows, Fred............Philadelphia, Pa.
Forster, Charles..........Norristown, Pa.
Fox, L. W..............Hummelstown, Pa.
Freund, Henry..........Philadelphia, Pa.
Fritz, Horace ....Boyerstown, Pa.
Frebus, George.........Philadelphia, Pa.

Gontner, A. M. ....York, Pa.
Gordon, J. W. ....Fayette City, Pa.

Hall, Walter................Bridgeton, N. J.
Hamer, J. R. ....Cameron, Mo.
Harbison, B. A..........Philadelphia, Pa.
Hays, W. P. ....Kittanning, Pa.
Heddens, J. W...........St.. Joseph, Mo.
Heinitsh, G. W.. ....Philadelphia, Pa.
Henning, J. D...........Wilkensburg, Pa.
Hengst, Milton..............Hamburg, Pa.
Hillis, J. D. ....Greencastle, Ind.
Hill, J. W. ....Crommell, Ky.
Himmelwright, F. E...Philadelphia, Pa.
Hough, H. Page............Redway, N. J.
Hough, C. B. ....Carninsville, Pa.
Howell, Richard L.....Philadelphia, Pa.
Hughes, Eugene W..........Hazleton, Pa.
Hulshizer, Allen H....Phillipsburg, N. J.
Hurford, W. D.....................Chicago, Ill.
Hutchinson, James............Ashland, O.
Huyett, R. P. R..............Reading, Pa.

Jacob, Harry.............Huntingdon, Pa.
Jessop, Samuel............Kittanning, Pa.
Jones, W. S. ....Millville, N. J.

Kennedy, James......Chambersburg, Pa.
Kilburn, Frank......Florenceville, N. B.
Koons, P. R......................Newville, Pa.

Lewis, Le Roy.........Seneca Falls, N. Y.
Liggett, Samuel J.......Philadelphia, Pa.
Lloyd, Wm. E. ....Ashton, Pa.
Lowry, James L. ....Watsontown, Pa.
Lott, J. H..........................Easton, Pa.
Lincoln, James ....Birdsborough, Pa.

Masser, W. H. ....Sunbury, Pa.
Martin, Eli W. ....Bellvernon, Pa.
McCord, Geo. Thornton...Pittsburg, Pa.
McKenzie, J. C..........Mt. Gilead, N. C.
Mercur, John D.............Towanda, Pa.
Mears, George V............Humidia, Pa.
Morales, José M. ....Nicaragua, C. A.
McCollister, J. H..........Newburg, Ind.
Miller, A. B...................Palmyra, Mo.
Montgomery, Ed. B..........Quincy, Ill.

Nicodemus, Jno. D...Frederick City, Md.

Oldshue, J. A................Pittsburg, Pa.

Praeger, H. F.......................Sweden.
Poffenberger, A. F. ....Dauphin, Pa.

Redeker, F. W. ....Philadelphia, Pa.
Rodman, W. L.............Frankfort, Ky.

Savage, G. C.	Henderson, Tenn.
Sawyer, Alton	Monmouth, Me.
Seasholtz, H. F.	Sunbury, Pa.
Shievely, Geo. G	Fairfield, Pa.
Shadel, J. E.	Williamsport, Pa.
Smock, Edward L.	Bath, Pa.
Smith, C. F.	West Va.
Spangler, G. D	Petersville, Pa.
Stair, John G	Battleground, Ind.
Stewart, J. Taylor	Cynthia, Ky.
Talmage, S. B	Philadelphia, Pa
Throop, George	Scranton, Pa.
Tomlinson, P. W	Frederica, Del.
Tinker, C. W	Wabasha, Minn.
Walters, John D	Little Rock, Ark.
Wells, Jas. M	Lambertville, N. J.
Wilkinson, Jas. L	New Bethlehem, Pa.
Welsh, D. Emmett	Columbia, Pa.
Wilson, Jas. M.	Ashland, O.
Wiltrout, Irving D	Schuylkill Hav., Pa.
Winslow, Byron	Benezett, Pa.
Wood, Geo. H	New Bethlehem, Pa.
Wright, J. L	Warrenton, Ga.
Zieber, Edward	Philadelphia, Pa.

Total, 100.

23

Bibliotheca Dermatologica.

CATALOGUE OF CUTANEOUS LITERATURE IN THE LIBRARY
OF
HENRY G. PIFFARD, M.D.,
PROFESSOR OF DERMATOLOGY, UNIVERSITY OF THE CITY OF NEW YORK, ETC.

NEW YORK:
BRADSTREET PRESS, 279 BROADWAY.
1879.

PREFACE.

No complete bibliography of cutaneous literature has ever been published, and as such a publication would prove of great utility to those interested in the subject, the undersigned has put forth the accompanying in the hope that even an imperfect list would not be entirely valueless.

He further desires to increase this collection, and to that end invites those who may possess dermatological works, not here included, which they are willing to dispose of, to communicate with him with a view to their transfer for a suitable consideration.

He hopes at a future time to compile a complete bibliography of the subject, and will be thankful for the titles of works, monographs, etc., that have been here omitted.

H. G. P.

No. 10 West 35th Street, New York.
May, 1879.

JOURNALS.

Annales des Maladies de la Peau et de la Syphilis. 1844–51. 4 vols., 8vo. (complete.)

Archiv für Syphilis und Hautkrankheiten. Berlin, 1846. 8vo. (complete.)

Giornale Italiano delle Malattie Veneree e delle Malattie della Pelle. Milano, 1866—. 13 vols., 8vo. (current.)

Journal of Cutaneous Medicine and Diseases of the Skin. London, 1868–71. 4 vols., illustrated, 8vo. (complete.)

Annales de Dermatologie et de Syphiligraphie. Paris, 1869—. 9 vols., 8vo. (current.)

The American Journal of Syphilography and Dermatology. New York, 1870–74. 5 vols., illustrated, 8vo. (complete.)

Archiv für Dermatologie und Syphilis. 1869–73. 5 vols., illustrated, 8vo. (complete.)

Archives of Dermatology. New York, 1874—. 4 vols., illustrated, 8vo. (current.)

Vierteljahresschrift für Dermatologie und Syphilis. Wien, 1875—. 4 vols., illustrated, 8vo. (current.)

GENERAL TREATISES.

Alibert, J. L.—Description des maladies de la peau, etc. Paris, 1814. pp. 232, 49 plates. Fol. $^{55.}$

American Dermatological Association, (Transactions of) for 1877. New York, 1878. pp. 42, 8vo.

——— for 1878. New York, 1879. pp. 63, 8vo.

Anderson, McCall.—On the treatment of diseases of the skin, with an analysis of eleven thousand consecutive cases. London, 1872. pp. 180, 12mo.

(**Anonymous.**)—Memoranda der Hautkrankheiten. Weimar, 1841. pp, 586, 48mo.

Bateman, Thomas.—Delineations of cutaneous diseases. Comprised in the classification of the late Dr. Willan, etc. London, 1817. 72 plates, 4to.

Bateman, Thomas.—A practical synopsis of cutaneous diseases, etc. 2d Am. Edit., Phila., 1824. pp. 320, illustrated, 8vo.

Baudot, E.—Traité des affections de la peau. Paris, 1869. pp. 431, 8vo.

——— Des doctrines . . . . sur les affections de la peau, etc. Paris, 1870. pp. 40, 8vo. (F. M. 1)

Baumès, P.—Nouvelle dermatologie, ou précis théorique et pratique sur les maladies de la peau, etc. Paris, 1842. 2 vols., pp. 560, 622, illustrated, 8vo.

Bazin, E.—Leçons théoriques et cliniques sur les affections génériques de la peau. Paris, 1862–65. 2 vols., pp. 416, 451, 8vo.

——— Leçons théoriques et cliniques sur les affections cutanées de nature arthritique et dartreuse, etc. 2d Edit. Paris, 1868. pp. 534, 8vo.

Behrend, G.—Die Hautkrankheiten, u.s.w. Braunschweig, 1879. pp. 569, illustrated, 12mo.

Berg, F. W. A.—Compendium der Hautkrankheiten. Berlin, 1861. pp. 123, 1 table, 16mo. (S. 19)

Bichat, X.—Abhandlung über die Häute, u.s.w. Translated from the French by C. J. Dörner. Tubingen, 1802. pp. 400, 16mo.

Burgess, T. H.—Eruptions of the face, head and hands, etc. London, 1849. pp. 254, 5 plates, 8vo.

Calmann L.—Taschenbuch der Hautkrankheiten, u.s.w. Leipzig, 1837. pp. 314, 12mo.

Cauty, H. E.—Diseases of the skin, etc. London and Liverpool, 1874. pp. 365, 8vo.

Cazenave, A., et Schedel, H. E.—Abrégé pratique des maladies de la peau, etc. 3d Edit. Paris, 1838. pp. 596, 10 plates, 8vo.

——— Manual of diseases of the skin, etc. From the French, by T. H. Burgess. 2d Am. Edit. By H. D. Bulkley. New York, 1852. pp. 348, 8vo.

Cazenave A.—Compendium des maladies de la peau et de la syphilis. Paris, 1869. pp. 320, 1 plate, 18mo.

Chausit, M.—Traité élémentaire des maladies de la peau. Paris. 1853. pp. 448, 8vo.

Chiarugi, V.—Delle malattie cutanee sordide in genere e in specie, etc. 2d Edit. Firenze, 1807. 2 vols., bound in one. pp. 206, 240, 16mo.

Clarke, Sir Arthur.—An essay on diseases of the skin, etc. New Edit. London, 1828. pp. 178, 12mo.

Devergie, A.—Traité pratique des maladies de la peau. Paris, 1857. pp. 852, 6 plates, 8vo.

Duchesne-Duparc.—Résumé . . . . sur les maladies de la peau. Paris, 1844. pp. 16, 8vo.

——— Nouvelle prosopalgie ou traité pratique des éruptions chroniques du visage, etc. Paris, 1847. pp. 170, 8vo.

Duhring, L. A.—A practical treatise on diseases of the skin. Phila., 1877. pp. 618, illustrated, 8vo.

Fouquet, A.—Ueber Hautkrankheiten und constitutionelle Syphilis . . . . Behandlung im Bade Creuznach. 2d Edit. Creuznach, 1865. pp. 138, 12mo. (348)

Fox, T.—Skin diseases: their description, pathology, diagnosis and treatment. Am. Edit. New York, 1871. pp. 313, illustrated, 8vo.

——— Skin diseases: their description, pathology, diagnosis and treatment. 3d Edit. London, 1873. pp. 532, illustrated, 8vo.

Fox, T., Farquhar, T., and Carter, H. V.—On certain endemic skin and other diseases of India and other hot climates generally, etc. London, 1876. pp. 288, 5 plates, 8vo.

Fox and Fox, T. C.—Epitome of skin diseases, with formulæ, etc. Phila., 1876. pp. 120, 16mo.

——— Epitome of skin diseases. 2d Am. Ed. Phila., 1879. pp. 216, 12mo.

Frank, J.—Die Hautkrankheiten. Translated by G. C. G. Voigt. Leipzig, 1843. 3 vols. pp. 518, 645, 444, 8vo.

Fuchs, C. H.—Die krankhaften Veränderungen der Haut und ihrer Anhänge, etc. Göttingen, 1840. 3 vols. pp. 324, 538, 460, 8vo.

Gailleton, A.—Traité élémentaire des maladies de la peau. Paris, 1874. 1st part. pp. 304, 8vo.

Gamberini, P.—Manuale delle malattie cutanee. Milano, 1871, pp. 360, 5 plates, 8vo.

Gerville, F. L.—Keine Hautkrankheiten mehr, u.s.w. Frankfurt a. M. n.d. pp. 90, 24mo. (209)

Gilbert, C. M.—Manuel des maladies spéciales de la peau, etc. Paris and Montpellier, 1834. pp. 338, 16mo.

Green, J.—A practical compendium of the diseases of the skin, etc. London, 1835. pp. 371, 8vo.

Guibout, E.—Leçons cliniques sur les maladies de la peau, etc. Paris, 1876. pp. 706, 8vo.

Hardy, A.—Leçons sur les maladies de la peau. 2 parts. 2d Edit. Paris, 1860–63. pp. 211, 211, 8vo.

Hebra, F. and Kaposi, M.—Lehrbuch der Hautkrankheiten. Bd. 1. Erlangen, 1860. pp. 638. Bd. 2. Stuttgart, 1876. pp. 735, 8vo.

——— Lehrbuch der Hautkrankheiten. 2d Edit. Erlangen, 1874. Erster Band. pp. 733, 8vo.

Hebra F. and Kaposi, M.—Traite des maladies de la peau comprenant les exanthèmes aigus. Paris, 1869. Vol. 1. pp. 896. Vol. 2. F. Hebra and M. Kaposi. . . . Translated by A. Doyon. Paris, 1878. pp. 964, 8vo.

——— On diseases of the skin, including the Exanthemata. Translated and edited by W. Tay. London, 1874–75. Vols. III.–IV. pp. 398, 247, 8vo.

Hillier, T.—Handbook of skin diseases, etc. 2d. Am. Edit. Phila. 1870. pp. 353, illustrated, 12mo.

Hunt, T.—A guide to the treatment of diseases of the skin, etc. 8th Edit. London, 1865. pp. 260, 16mo.

Innis, T.—The skin, in health and disease, etc. London, 1849. pp. 204, illustrated, 8vo.

Jahr, G. H. G.—Du traitement homœopathique des maladies de la peau, etc. Paris, 1850. pp. 608, 8vo.

——— Alphabetical repertory of the skin, symptoms, ... etc. Edited by C. J. Hempel. New York, 1850. pp. 515, 16mo.

Jordan, R. J.—Skin diseases and their remedies. London, 1860. pp. 283, 12mo.

Kaposi, M.—Pathologie und Therapie der Hautkrankheiten. 1te Hälfte. Wien, 1879. pp. 400, 8vo.

Kennedy, D.—On diseases of the skin. 2d Edit. Roxbury, 1871. pp. 138, illustrated, 8vo. (27)

Kleinhans, A.—Compendium der Hautkrankheiten. Erlangen, 1866. pp. 289, 8vo.

Lilienthal, S.—A treatise on diseases of the skin. New York and Phila., 1876. pp. 491, 8vo.

Locher, H.—Die Medizinischen und Chirurgischen Krankheiten der Haut. Erlangen, 1867. pp. 438, 8vo.

Logan, D. D.—On certain obstinate diseases of the skin. London, 1864. pp. 67, 16mo.

Lorry, A. C.—Tractatus de morbis cutaneis. Parisiis, 1777. pp. 688, 4to.

Lutheritz, K. F.—Der Arzt als Rathgeber in den Krankheiten der Haut. Ilmenau, 1826. pp. 102, 12mo. (413)

Mapother, E. D.—Lectures on skin diseases, delivered at St. Vincent's Hospital. 2d Edit. Dublin, 1875. pp. 206, illustrated, 12mo.

Meadows, B.—Eruptions: their real nature, and rational treatment. 4th Edit. London, 1867. pp. 70, 12mo. (S. 13)

Meldon, A.—A treatise on diseases of the skin and its appendages. London, 1872. pp. 270, 12mo.

Mercurialis, H.—De morbis cutaneis . . . . tractatus, etc. Venetiis, 1572. pp. 117, 12mo.

——— ——— Venetiis, 1601. pp. 210, 8vo.

Milton, J. L.—The pathology and treatment of diseases of the skin. London, 1872. pp. 358, illustrated, 4 plates, 8vo.

Morelli C.—Guida . . . . dei morbi cronici della pelle. Firenze, 1872. 2 parts. pp. 1061, 11 plates, 8vo.

Nasse.—Versuch . . . . der Hautkrankheiten. Berlin, 1834. pp. 68, 8vo. (Reprint.) (S. 20)

Nayler, G.—A practical and theoretical treatise on the diseases of the skin. London, 1866. pp. 292, illustrated, 8vo.

Neligan, J. M.—A practical treatise on diseases of the skin. 3d Am. Ed. Phila., 1860. pp. 333, 12mo.

Neumann, I.—Lehrbuch der Hautkrankheiten. Wien, 1869. pp. 368, illustrated, 8vo.

——— Handbook of skin diseases. Translated from the 2d German edition, with notes, by L. D. Bulkley. New York, 1872. pp. 467, illustrated, 8vo.

——— Lehrbuch der Hautkrankheiten. 3d Edit. Wien, 1873. pp. 567, illustrated, 8vo.

——— ——— 4th Edit. Wien, 1876. pp. 688, illustrated, 8vo.

Ory, E.—Maladies de la peau, etc. (Versailles) n.d. pp. 40, 8vo. (S. 25)

Piffard, H. G.—An elementary treatise on diseases of the skin. London and New York, 1876. pp. 375, illustrated, 8vo.

——— **and Fox, G. H.**—Cutaneous and venereal memoranda. New York, 1877. pp. 301, 24mo.

Plenck, J. J.—Doctrina de morbis cutaneis, etc. Vienna, 1776. pp. 124, 12mo.

——— Lehrsätze von den Krankheiten der Haut, &c. Warschau and Dresden, 1777. pp. 140, 16mo.

Plumbe, S.—A practical treatise on diseases of the skin. London, 1824. pp. 392, 2 plates, 8vo.

——— A practical treatise on the diseases of the skin, etc. 4th Edit. London, 1837. pp. 607, 3 plates, 8vo.

Puchelt, F. A. B.—Die Hautkrankheiten, u.s.w. Heidelberg, 1836. pp. 20, 4to. (V. 2)

Purdon, H. S.—A treatise on cutaneous medicine and diseases of the skin. London and Belfast, 1875. pp. 272, 12mo.

Rau, L.—Heil-Art der verschiedenen Flechten-Ausschläge, u.s.w. Schweidnitz, 1843. pp. 74, 8vo. (S. 14)

Rayer, P.—Traité théorique et pratique des maladies de la peau, etc. Paris, 1826–27. 2 vols., pp. 688, 646, 8vo.

——— (Traité théorique et pratique des maladies de la peau,) etc. 10 plates. Paris, 1826. 8vo., Atlas.

——— Traité théorique et pratique des maladies de la peau, &c. 2d Edit. Paris, 1835. 3 vols., pp. 741, 500, 486, 8vo.

——— (Traité des maladies de la peau.) Paris, 1835. 22 plates. Fol. ^{36,} Atlas.

Rayer, P.—A theoretical and practical treatise on the diseases of the skin. From the 2d Edit. . . by J. Bell. Phila. 1845. pp. 449, 40 plates. Fol. $^{33.}$

Riecke, V. A.—Handbuch über die Krankheiten der Haut, u.s.w. 2d Edit. Dresden u. Stuttgart, 1841. pp. 682, 1 plate, 12mo.

Rückert E. F.—Die Hautkrankheiten. . . . bearbeitet auf homöpathische Weise. Leipzig, 1833. pp. 204, 16mo. (S. 19)

Russell, J. R.—The skin and its diseases. 2d Edit. London, n.d. pp. 135. 8vo. (S. 17)

St. Gervais G. de.—Guide pratique . . . . des maladies de la peau. Paris, 1842. pp. 672, with portrait of author and 5 plates. 8vo.

Simon, G.—Die Hautkrankheiten durch anatomische Untersuchungen, etc. 2d Edit. Berlin, 1851. pp. 420, 9 plates, 8vo.

De Smet, E.—Des dermatoses, etc. Bruxelles et Paris, 1870. pp. 236, 8vo.

Squire, B.—A manual of the diseases of the skin. London, 1869. pp. 204. illustrated, 16mo.

Struve L. A.—Synopsis morborum cutaneorum, etc. Berlin, 1829. pp. 107, 4 plates. Fol. $^{43.}$

Thomson, (the late) A. T.—A practical treatise on diseases affecting the skin. Completed and edited by E. A. Parkes. London, 1850. pp. 448, 8vo.

Toothaker, C. E.—Diseases of the skin. Phila., 1856. pp. 74, 8vo.

Turner, D.—De morbis cutaneis. A treatise of diseases incident to the skin, etc. London, 1714. pp. 374, 12mo.

——— ——— 2d Edit. London, 1723. pp. 524, 12mo.

——— ——— 3d Edit. London, 1726. pp. 524, 12mo.

——— ——— 4th Edit. London, 1731. pp. 524, 12mo.

——— ——— 5th Edit.* London, 1736. pp. 524. 12mo.

Veiel, T.—Mittheilungen über die Behandlung der chronischen Hautkrankheiten in der Heilanstalt für Flechtenkranke in Cannstatt, u.s.w. Stuttgart, 1862. pp. 130. 8vo. (S. 6)

Willan R.—On cutaneous diseases. London, 1808. Vol. 1. pp. 556, 33 plates, 4to.

Wilson, E.—Course of lectures on diseases of the skin, etc. London. 1842–43, 8vo. (Supplement to the *Lancet.*)

——— On diseases of the skin. 2d Am. from 2d Lond. Edit. Phila., 1847. pp. 439, 8vo.

——— The student's book of cutaneous medicine and diseases of the skin. London, 1864. pp. 275, 12mo.

---

* The last three editions appear to be the unsold remains of the 2d Edit., with new title pages.

Wilson, E.—On diseases of the skin. 6th Am. from 5th Lond. Edit. Phila., 1865. pp. 694, illustrated, 8vo.

——— Lectures on dermatology, etc. London, 1873. pp. 295, 8vo.

——— ——— London, 1875. pp. 224, 8vo.

——— ——— London, 1878. pp. 289, 8vo.

Wilson, J.—A familiar treatise on cutaneous diseases, etc. 2d Edit. London, 1814. pp. 262, 8vo.

Worcester, N.—A synopsis . . . of . . diseases of the skin, etc. Phila., 1845. pp. 292, 8 plates, 8vo.

ANATOMY.

Besserer, A.—Observationes de unguium anatomia atque pathologia. Bonnæ, 1834. pp. 70, 1 plate, 8vo. (S. 27)

Biesiadecki, A. von—Beiträge zur physiologischen und pathologischen Anatomie der Haut. Wien, 1867. pp. 24, 3 plates, 8vo. (Reprint.) (S. 2)

Couty, L.—Les terminaisons des nerfs dans la peau. Paris, 1878. pp. 174, 8vo. (402)

Eberth, C. I.—Die Endigung der Hautnerven. n.p., 1870. pp. 5, 1 plate, 8vo. (Reprint.) (S. 14)

Eylandt, A.—Observationes microscopicæ de musculis organicis in hominis cute obviis. Lypsiæ, 1850. pp. 40, 1 plate, 4to. (V. 2)

Farabeuf, L. H.—De l'épiderme et des épithéliums. Paris, 1872. pp. 286, 1 plate, 8vo. (S. 3)

Henle, J. und Kölliker, A.—Ueber die Pacinischen Körperchen an den Nerven des Menschen und der Saugethiere. Zurich, 1844. pp. 40, 3 plates, 4to. (V. 2)

Herbst, G.—Die Pacinischen Körper und ihre Bedeutung, u.s.w. Göttingen, 1848. pp. 141, 16 plates, 8vo.

Kölliker, A.—Ueber den Bau der Cutispapillen und die sogenannten Tastkörperchen. n.p. (1852.) pp. 10, 2 plates, 8vo. (315)

Langer, K.—Zur Anatomie und Physiologie der Haut. n.p. 1861. pp. 56, 1 plate, 8vo. (Reprint.) (S. 2)

Meissner, G.—Beiträge zur Anatomie und Physiologie der Haut. Leipzig, 1853. pp. 47, 2 plates, 4to. (Varia 1)

Neumann, I.—Ueber die Verbreitung der organischen Muskelfasern in der Haut des Menschen. n.p., n.d. pp. 8, 8vo. (S. 10)

Schlegel, F.—De unguium structura eorumque physiologia. Jenae, 1848. pp. 15, 8vo. (S. 27)

Schrön, O.—Contribuzione alla anatomia, fisilogia e patologia della cute umana. Torino e Firenze, 1865. pp. 103, 4 plates, 8vo. (S. 8)

Shattuck, G. C.—Three dissertations, etc. . . . . On the structure and physiology of the skin, etc. Boston, New York and Philadelphia, 1808. pp. 192, 8vo.

Thin, G.—Ueber den Bau der Tastkörperchen. n.p. (1873.) pp. 6, 1 plate, 8vo. (Reprint.) (S. 14)

Unna, P.—Beiträge zur Histologie . . . der menschlichen Oberhaut, u.s.w. n.p. (1876.) pp. 277, 2 plates, 8vo. (Extract.) (S. 18)

Van Laer, J. F. J.—De structura capillorum humanorum observationibus microscopicis illustrata. Trajecti ad Rhenum, 1841. pp. 48, 1 plate, 8vo. (S. 14)

ECZEMA.

Anderson, M'Call.—A practical treatise upon eczema. 3d Edit. London, 1874. pp. 208, 8vo.

Bulkley, L. D.—The management of eczema. New York, 1875. pp. 22, 8vo. (Reprint.) (S. 12)

Cazenave, A.—Les gourmes. Paris, 1873. pp. 59, 8vo. (S. 8)

Deruelle, L.—Essai sur l'eczema. Paris, 1871. pp. 34, 4to. (T. 2)

Duchesne-Duparc, L. V.—Traité complet des gourmes chez les enfants, etc. Paris, 1844. pp. 532. 8vo.

Francesco, B.—Eczema impetigginoso cronico migliorato . . . . della tintura di zea-mais. (Milano, 1875.) pp. 3, 8vo. (394)

Fox, Tilbury.—Eczema: its nature and treatment, etc. London, 1870. pp. 68, 8vo. (Reprint.) (S. 12)

Hardy, A.—The dartrous diathesis, or eczema and its allied affections. Translated by H. G. Piffard. New York, 1868. pp. 94, 12mo.

Grangé, L. L.—Des éruptions eczémateuses déterminées par l'acide picrique. Paris, 1877. pp. 344, 4to. (T. 6)

Grebert, F.—Ueber Ekzem. Würzburg, 1864. pp. 28, 8vo. (S. 27)

Laffitte, G.—Contribution a l'étude de l'eczema rubrum facial dans ses rapports avec la puberté et la ménopause. Montpellier, 1875. pp. 45, 4to. (T. 3)

Langlois, A. M.—Quelques considérations sur la peau et les muqueuses au sujet de l'eczema. Paris, 1872. pp. 35, 4to. (T. 2)

Narp, G.—De l'eczema du sein. Paris, 1872. pp. 30, 4to. (ib.)

Picard, A. S.—De l'eczéma en général et de ses complications pulmonaires. Paris, 1878. pp. 60, 4to. (T. 7)

Taylor, R. W.—Etiology of infantile eczema. Louisville, 1875. pp. 20, 8vo. (Reprint.) (S.12)

——— On the treatment of eczema. New York, 1876. pp. 28, 8vo. (32)

ELEPHANTIASIS.

Alard.—De l'inflammation des vaisseaux absorbans-lymphatiques dermoïdes et sous-cutanées. Paris, 1824. pp. 400, illustrated, 8vo.

Brandis, B.—De hypertrophiae cutis specie vulgo elephantiasis arabum nominatae. Bonnae, 1849. pp. 27, 1 plate, 8vo. (S. 20)

Broquère, R.—De l'elephantiasis du scrotum. Paris, 1875. pp. 92, 2 plates, 8vo. (S. 15)

Busey, S. C.—Congenital occlusion and dilatation of lymph channels. New York, 1878. pp. 187, illustrated, 8vo.

Carnochan, J. M.—Elephantiasis arabum of the right inferior extremity, etc. New York, 1852. pp. 13, 1 plate, 8vo. (Reprint.) (S. 5)

Cellard, H.—De l'elephantiasis vulvaire chez les Européennes. Paris, 1877. pp. 67, 8vo. (135)

Cuny, C.—Ueber einen Fall von angeborener weicher Elephantiasis, u.s.w. Giessen, 1865. pp. 32, 1 plate, 8vo. (S. 20)

Fayrer, J.—Elephantiasis arabum. (London,) 1875. pp. 15, illustrated, 8vo. (Extract.) (S. 12)

Fraenkel, R.—De arabum elephantiasi, etc. (Vratislaviensis,) 1857. pp. 45, 1 plate, 8vo. (S. 10)

Gores, J. M.—Ueber Elephantiasis Arabum. Würzburg, 1876. pp. 15, 8vo. (316)

Hecker, C. F.—Die Elephantiasis, oder Lepra Arabica. Lahr, 1858. pp. 16, 5 plates. Fol. 65.

Hendy, J.—A treatise on the glandular disease of Barbadoes, etc. London, 1784. pp. 140, frontispiece, 1 plate, 8vo.

Hendy, J. und Rollo, J.—Ueber die Drüsenkrankheit in Barbadoes, u.s.w., aus dem Englischen übersetzt von A. F. A. D. in G., Frankfurt am Main, 1788. pp. 254, 2 plates, 12mo.

Kueckelhan, A. W.—Ueber die Elephantiasis. Würzburg, 1832. pp. 28, 8vo. (S. 20)

Lalande, F. de—De elephantiasi. Berolini, 1824. pp. 40, 8vo. (S. 27)

Lambrecht, L. F.—De elephantiasis arabum, etc. Halis, 1867. pp. 31, 8vo. (ib.)

Mestre, J. F. G.—Essai sur l'elephantiasis des Arabes observé en Algérie. Montpellier, 1864. pp. 104, 6 plates, 8vo. (S. 1)

Redlich, B. J.—De elephantiasis scroti. Berlin, 1838. pp. 32, 4 plates, 4to. (V. 2)

Rosenkranz, H.—Ueber Elephantiasis Arabum mit Anschluss von zwei Fällen von Elephantiasis der Labia majora. Berlin, 1873. pp. 28, 8vo. (S. 7)

Schweitzer, E. R.—De elephantiasi arabum. Jenae, 1849. pp. 22, 8vo. (S. 27)

Stahl, H.—De rariore quodam casu elephantiasis. Halis, 1847, pp. 31, 8vo. (S. 20)

Thebaud, J. S.—A case of elephantiasis arabum, etc. New York, 1868. pp. 23, illustrated, 2 plates, 8vo. (Reprint.) (S. 5)

Thomas, F.—De elephantiasi. Halis Saxonum, 1846. pp. 38, 1 plate, 8vo. (S. 20)

Winckler, T. R. M.—De elephantiasi. Berolini, 1850. pp. 34, 8vo. (ib.)

ERYSIPELAS.

Bastian, J.—Étude sur l'érysipèle. Paris, 1875. pp. 56, 4to. (T. 1)

Borianne, J. A.—De l'érysipèle phlyctenoide. Paris, 1873. pp. 47, 4to. (ib.)

Bourgeois, A.—De la terminasion de l'érysipèle par des éruptions cutanées. Paris, 1874. pp. 32, 8vo. (S. 11)

Bourretère, E. C. B.—Étude sur l'érysipèle de la face. Paris, 1875. pp. 73, 4to. (T. 1)

Courbou, L.—De l'érysipèle scrofuleux. Paris, 1872. pp. 66, 1 plate, 4to. (ib.)

Hahn, T.—Ueber den Einfluss heftiger Erysipels auf andere Affentionen besonders auf organisirte Neubildungen. Bonn, 1870. pp. 26, 8vo. (S. 20)

Hähnle, K.—Beitrag zur Lehre vom Erysipels. Tübingen, 1870. pp. 32, 1 table, 8vo. (S. 7)

Lordereau, P.—De la suppuration dans l'érysipèle. Paris, 1873. pp. 91, 4to. (T. 1)

Renaut, J.—Contribution a l'étude anatomique et clinique de l'érysipèle et des œdemes de la peau. Paris, 1874. pp. 116, 1 plate, 8vo. (S. 3)

Rith, I.—Essai sur la nature et la contagion de l'érysipèle. Paris, 1875. pp. 86, 4to. (T. 1)

Ritzmann, E.—Beiträge zur Aetiologie und Pathologie des Erysipels. Zurich, 1872. pp. 136, 2 tables, 8vo. (S. 6)

Satterlee, F. Le R.—Erysipelas: its etiology, pathology, and abortive treatment by quinine and opium. New York, 1874. pp. 16, 8vo. (Reprint.) (S. 12)

Sevestre, A.—Des manifestations cardiaques dans l'érysipèle de la face. Paris, 1874. pp. 82, 4to. (T. 1)

Thomas, M. E.—De l'érysipèle périodique cataménial. Le Mans, 1875. pp. 32, 4to. (ib.)

HAIR.

(Anonymous).—The art of preserving the hair, etc. London, 1825. pp. 260, 8vo.

Beigel, H.—Ueber Auftreibung und Bersten der Haare, eine eigenthümliche Erkrankung des Haarschaftes. n.p., 1855. pp. 8, 1 plate, 8vo. (Reprint.) (S. 2)

——— The human hair: its structure, growth, etc. London, 1869. pp. 152, 16mo.

Cazenave, A.—Traité des maladies du cuir chevelu, etc. Paris, 1850. pp. 400, illustrated, 8vo.

Cottle, E. W.—The hair in health and disease, etc. Phila., 1877. pp. 147, 16mo.

Courrèges, A.—Étude sur la pelade. Paris, 1874. pp. 64, 1 plate, 8vo. (S. 11)

Duhring, L. A.—Case of an undescribed form of atrophy of the hair of the beard. Phila., 1878. pp. 5, illustrated, 8vo, (Reprint.) (412)

Eble, B.—Die lehre von den Haaren in der gesammten organischen Natur. 2 vols. in 1. Wien, 1831. pp. 224, 464, illustrated, 8vo.

Eberer, V. Von.—Mikroskopische Studien über Wachsthum und Wechsel der Haare. Wien, 1876. pp. 56, illustrated and 2 plates, 8vo. (Reprint.) (193)

Godfrey, B.—Diseases of hair, etc. Phila., 1872. pp. 183, 16mo.

Jahn, G. W.—Der Haararzt. Prag. 1828. pp. 162, 24mo. (107)

Joannet, H.—Le poil humain, ses variétés d'aspect, etc. Paris, 1878. pp. 117, 8vo. (390)

Kneiphof, J. G.—Abhandlung von Haaren, u.s.w. Rotenburg an der Fulda, 1777. pp. 63, 16mo. (S. 19)

Merkel, J. F.—Der erfahrene Haararzt, u.s.w. Leipzig, 1840. pp. 242, 16mo. (89)

Oesterlen, O.—Das menschliche Haar und seine gerichtsärztliche Bedeutung. Tübingen, 1874. pp. 151, 8vo. (S. 6)

Perry, B. C.—The human hair, and the cutaneous diseases which affect it, etc. 2d Edit. New York, 1866. pp. 402, illustrated, and 5 plates, 12mo.

Pfaff, E. R.—Das menschliche Haar, u.s.w. 2d Edit. Leipzig, 1869. pp. 111, 10 plates, 8vo.

Tardinus, J.—Disquisitio physiologica de pilis. Turnoni, 1619. pp. 280, 16mo.

Truefltt, H. P.—New views on baldness; being a treatise on the hair and skin. London, 1863. pp. 267, illustrated, 8vo.

Voigt, C. A.—Abhandlung über die Richtung der Haare am menschlichen Korper. Wien, 1857. pp. 50, 2 plates, 4to.

Wigglesworth, E. Jr.—Alopecia. n.p., 1871. pp. 28, 8vo. (S.12)

Ziemssen, H.—Dermatologische Studien. (Sycosis und Area Celsi). Erlangen, 1863. pp. 20, 1 plate, 8vo. (S.10)

LEPRA.

Bergmann, E.—Die Lepra in Livland. St. Petersburg, 1870. pp. 84, 4to. (V. 2)

Brassac, P. J. M.—Essai sur l'elephantiasis des grecs, etc. Paris, 1868. pp. 99, 8vo. (Reprint.) (S. 25)

Burkhardt, F. A.—Ueber die Lepra. Erlangen, 1833. pp. 48, 8vo. (S. 16)

Carter, H. V.—Modern Indian Leprosy. Being the report of a tour in Kattiawar. Bombay, 1876. pp. 96, illustrated, 4to.

Danielssen, D. C., and Boeck, W.—Traité de la spédalskhed, &c. Translated by L. A. Cosson. Paris, 1848. pp. 535, 8vo.

Essinger, D.—Ueber den Zaraath des Moses oder den weissen Aussatz. Tübingen, 1843. pp. 50, 8vo. (S. 7)

Haubold, C.—Vitiliginis leprosæ varioris historia cum epicrisi, etc. Lipsiæ, 1822. pp. 37, 4to. (V. 2)

Heusler, P. G.—Vom abendländischen Aussatze im Mittelalter, u.s.w. Hamburg, 1790. pp. 125, 408, 16mo.

Heymann, A.—Einiges über die Lepra, wie sie auf Java und in den Molackken vorkommt. Würzburg, 1854. pp. 24, 8vo. (S. 27)

Hironnait, A.—Contribution a l'étude de la lèpre ou éléphantiasis des grecs. Paris, 1875. pp. 64, 4to. (T. 3)

Kelp, F.—Beiträge zur Pathologie der Lepra. Tübingen, 1869. pp. 45, 8vo. (S. 22)

Lamblin, P.—Étude sur la lèpre tuberculeuse, etc. Paris, 1871. pp. 148, illustrated, 8vo. (F. M. 2)

Leo, A. J.—Beitrag zur Geschichte der Lepra. Leipzig, 1870. pp. 15, 8vo. (S. 20)

Liveing, R.—Elephantiasis græcorum, or true leprosy. London, 1873. pp. 150, 12mo.

Martins, H. von—Abhandlung über die Krimmsche Krankheit und deren ärztliche Behandlung. Freiberg, 1819. pp. 160, 1 plate, 8vo. (S. 16)

Profeta, G.—Sulla lepra in Sicilia indagini. Firenze e Roma, 1875. pp. 10, 8vo. (Reprint.) (S. 15)

Royal College of Physicians, Report on leprosy by the. London, 1867. pp. 244, 8vo. Fol. 33.

Salètes, F.—La lèpre dans l'antiquité et au moyen age. Paris, 1877. pp. 52, 4to. (T. 6)

Steudener, F.—Beiträge zur Pathologie der Lepra mutilans. Erlangen, 1867. pp. 43, 3 plates, 8vo. (S. 6)

Verga, A.—Sulla lebbra. Milano, 1846. pp. 160, 8vo. (S. 8)

Vinkhuijzen, H. J.—De Melaatschheid, etc. Sgravenhage, 1868. pp. 232, 1 plate and 1 map, 8vo. (S. 10)

Wolff, C.—Die Lepra Arabum (Elephantiasis Græcorum). Berlin. n.d. pp. 35, 3 plates, 8vo. (Reprint.) (304)

LUPUS.

Auspitz, H.—Ueber Lupus syphiliticus und scrophulosus. Wien, 1878. pp. 12, 8vo. (Reprint.) (282)

Bernutz, G.—Esthiomène. Paris, 1874. pp. 21, illustrated, 8vo. (Reprint.) (S. 15)

Colomiatti, V. F.—Sulla natura e struttura del lupo volgare. Torino, 1875. pp. 51, 2 plates, 8vo. (S. 18)

Doat, L. G. B.—Du lupus. Montpellier, 1870. pp. 48, 4to. (T. 4)

Drache, A. F. M.—Einiges über Lupus der Schleimhäute. Marburg, 1870. pp. 22, 8vo. (S. 27)

Fiquet, A.—Essai sur l'esthiomène. Paris, 1876. pp. 71, 8vo. (75)

Fournier, R. A. A.—Essai sur le lupus scrofuleux phagédénique. Paris, 1877. pp. 71, 4to. (T. 6)

Fraiche, J. G. C.—Du lupus exedens, etc. Paris, 1878. pp. 50, 4to. (T. 7)

Geddings, W. H.—Zur Anatomie des Lupus erythematosus. Wien, 1868. pp. 4, 1 plate, 8vo. (Reprint.) (S. 2)

George, A.—Ueber Lupus. Würzburg, 1864. pp. 15, 8vo. (S. 10)

Grivet, P.—Étude clinique de l'influence salutaire de l'érysipèle sur le lupus. Paris, 1874. pp. 28, 4to. (T. 2)

Hammel, T.—Ueber den Wolf. Erlangen, 1872. pp. 25, 8vo. (372)

Hilf, G.—Pathologie und Therapie des Lupus. Würzburg, 1862. pp. 30, 8vo. (S. 10)

Hoppe, I.—Zur Behandlung der fressenden Flechte (Lupus). Bonn, 1849. pp. 26, 1 plate, 4to. (V. 1)

Huguier, P. C.—Mémoire sur l'esthiomène, etc. Paris, 1849. pp. 97, 4 plates, 4to. (Extract.) (T. 4)

Köhnen, J. J.—De lupo. Bonnæ, 1852. pp. 26, 8vo. (S. 20)

Lammers, P. H.—Ueber den Lupus und seine Beziehung zur Syphilis. Berlin, 1868. pp. 35, 8vo. (406)

Lelongt, F.—Du lupus. . . . . traitement par la méthode des scarifications linéaires. Paris, 1877. pp. 79, 4to. (T. 6)

Martin, H.—Ueber eine Combination von Lupus (syphiliticus?) mit Epitheliom. Würzburg, 1877. pp. 37, 8vo. (318)

Mohs, C. H.—De lupi forma et structura nonnulla. Lipsiæ, 1855. pp. 28, 1 plate, 8vo. (S. 20)

Piffard, H. G.—The histology of the scrofulides (lupus). New York, 1875. pp. 12, illustrated, 8vo. (Extract.) (S. 12)

——— On certain points relating to the nature and treatment of lupus. Albany, 1877. pp. 10, 8vo. (Reprint.) (206)

——— Further contributions to the treatment of lupus. New York, 1879. pp. 10, 8vo. (Reprint.)

Squire, B.—On lupus-disease of the skin and its treatment by a new method. London, 1874. pp. 31, 12mo. (S. 13)

——— A case of lupus of the face, treated by linear scarification, aided by erasion. (London, 1878.) pp. 2, 8vo. (408)

Veiel, T.—Ueber Lupus Erythematosus. Tübingen, 1872. pp. 92, 2 plates, 8vo. (S. 10)

Volkmann R.—Ueber den Lupus und seine Behandlung. n.p. n.d. pp. 18, royal 8vo. (Varia 2)

Wecus, Julius von—Ueber Lupus vulgaris. Bonn, 1874. pp. 47, 8vo. (418)

Wolff, M.—De lupo adjecta morbi historia. Berlin, 1839. pp. 35, 12mo. (277)

PARASITIC.

Anderson, M. C.—On the parasitic affections of the skin. 2d Edit. London, 1868. pp. 250, illustrated, 10 plates, 8vo.

Atkinson, I. E.—The botanical relations of trichophyton tonsurans. New York, 1878. pp. 17, illustrated, 8vo. (404)

Battmann, E. E.—De scabie. Lipsiæ, 1851. pp. 14, 8vo. (S. 21)

Bazin, E.—Leçons théoriques et cliniques sur les affections cutanées parasitaires. By A. Pouquet. Paris, 1858. pp. 236, 8vo.

Bergeron, E. J.—Étude . . . . des teignes. Paris, 1865. pp. 50, 2 plates, 8vo. (S. 25)

Blanc J. M.—De la gale et de ses éruptions. Paris, 1872. pp. 40, 4to. (T. 2)

Bonnet, G.—Mémoire sur la puce pénétrante ou chique. Paris, 1867. pp. 101, 2 plates, 8vo. (S. 11)

Bulkley, L. D.—On the so-called eczema marginatum of Hebra, etc. New York, 1877. pp. 28, 8vo. (Reprint.) (259)

Chincholle, F.—De la nature parasitaire du pityriasis capitis et de l'alopécie consécutive. Paris, 1874. pp. 42, 8vo. (S. 3)

Colsmann, A. A.—De parasitis corporis humani. Berolini, 1859. pp. 32, 8vo. (S. 22)

Cramoisy, E. P.—Du trichophyton, des affections qu'il détermine sur l'homme et les animaux, etc. Paris, 1856. pp. 56, 8vo. (131)

Däubler, C.—Ueber Lichen parasiticus. Göttingen, 1872. pp. 28, 8vo. (S. 22)

Duhring, L. A.—A case of tinea tricophytina unguium. (Phila. 1878.) pp. 4, 8vo. (Reprint.) (427)

Fabre, S. P.—Des mélanodermies et en particulier d'une mélanodermie parasitaire. Paris, 1872. pp. 104, 8vo. (F. M. 2)

Fox, Tilbury—Skin diseases of parasitic origin, etc. London, &c., 1866. pp. 210, illustrated, 4 plates, 8vo.

——— On ringworm and its management. London, 1878. pp. 62, 16mo.

Fürstenberg, M. H. F.—Die Krätzmilben der Menschen und Thiere. Leipzic, 1861. pp. 240, 15 plates, Fol. 38.

Gasser, F. J.—Des parasites des organes génitaux de la femme. Paris, 1874. pp. 93, 8vo. (P.)

Gerlach, A. C.—Krätze und Räude, u.s.w. Berlin, 1857. pp. 178, 8 plates, 8vo.

Gras, A.—Recherches sur l'acarus ou sarcopte de la gale de l'homme. Paris, 1834. pp. 35, 8vo. (S. 11.)

Gudden, B.—Beiträge zur Lehre von den durch Parasiten bedingten Hautkrankheiten. Stuttgart, 1855. pp. 96, 3 plates, 8vo. (S. 10)

Guldener (von Lobes), E. D.—Beobachtungen über die Krätze, u.s.w. Prag, 1795. pp. 192, 12mo. (414)

Haussmann, D.—Die Parasiten der weiblichen Geschlechtsorgane des Menschen und einiger Thiere, u.s.w. Berlin, 1870. pp. 141, illustrated, 8vo. (P.)

——— Die Parasiten der Brustdrüse. Berlin, 1874. pp. 80, 8vo. (ib.)

Henke, A. E.—Ueber Favus. Erlangen, 1849. pp. 32, 8vo. (S. 7)

Herr, A.—De tineae pathologia. Bonnæ, 1839. pp. 34, 1 plate, 8vo. (S. 21)

Hogg, J.—Skin diseases: an inquiry into their parasitic origin, etc. London, 1873. pp. 108, illustrated, 12mo. (S. 13)

Jeffries, B. J.—Animal and vegetable parasites of the human skin and hair. Boston, 1872. pp. 102, illustrated, 1 plate, 12mo. (ib.)

Kaposi, M.—Ueber den gegenwärtigen Stand der Lehre von den pflanzlichen Parasiten der menschlichen Haut. Wien, 1876. pp. 26, 8vo. (Extract.) (190)

Lailler, C.—Leçons cliniques sur les teignes, etc. Paris, 1878. pp. 105, 4 plates, 8vo. (323)

Lang E.—Ueber Impetigo contagiosa und ihre Stellung zur Dermatomykosis tonsurans. (Wien, 1877.) pp. 8, 8vo. (Reprint.) (222)

Mahon (Jeune).—Recherches sur le siége et la nature des teignes. Paris, 1829. pp. 373, 5 plates, 8vo.

Mailhetard, C.—Contribution a l'étude de la gale. Paris, 1875. pp. 56, 4to. (T. 4)

Mayer, C. G.—Critik der Krätzmilbentheorie. Tübingen, 1837. pp. 48, 1 plate, 12mo. (S. 9)

Mégnin, M. J. P.—De la gale du cheval . . . . et des animalcules qui la produisent. Paris, 1872. pp. 109, 2 plates, 8vo. (F. M. 2.)

——— Memoire sur l'organization . . . . des acariens de la famille des gamasidés. Paris, 1876. pp. 49, 2 plates, 8vo. (S. 25)

Meyen, F. J. F.—Untersuchungen über die natur parasitischer Geschwülste im menschlichen Körper, u.s.w. Berlin, 1828. pp. 99, 16mo. (S. 19)

Michelson, P.—Ueber Herpes tonsurans und Area Celsi. Leipzig, 1877. pp. 36, 3 plates, 8vo. (136)

Pick, F. J.—Untersuchungen über die pflanzlichen Hautparasiten. Wien, 1865. pp. 14, 8vo. (Reprint.)

Piffard, H. G.—Impetigo contagiosa: its parasitic nature. (New York, 1872.) pp. 15, illustrated, 8vo. (Extract.) (25)

Plumbe, S.—A practical essay on ringworm of the scalp, etc. London, 1821. pp. 104, 2 plates, 8vo.

Raspail, F. V.—Naturgeschichte des Insekts der Krätze, u.s.w. Aus dem Französischen, u.s.w. Von G. K. Leipzig, 1835. pp. 31, 2 plates, 8vo. (S. 14)

Robin, C.—Histoire naturelle des végétaux parasites qui croissent sur l'homme et sur les animaux vivants. Paris, 1853. pp. 702, illustrated, 8vo.

——— Histoire naturelle des végétaux parasites, etc. Paris, 1853. pp. 24, 15 plates, 4to.

Rochard, F.—Du parasitisme végétal, etc. Paris, 1873. pp. 32, illustrated, 8vo. (P.)

Rohde, J. A. F.—De scabie et acaro humano. Berolini, 1836. pp. 62, 8vo. (S. 16)

Schlecht, G. H.—De favi pathologia. Bonnæ, 1847. pp. 46, 8vo. (S. 21)

Seggel, C.—Ueber die Scabies norwegica s. crustosa Boeckii. Würzburg, 1860. pp. 23, 8vo. (317)

Shoemaker, J. N.—Ringworm in public institutions, etc. Phila. 1878. pp. 16, 8vo. (Reprint.)

Smith, William J.—On ringworm. London, 1867. pp. 75, 12mo. (S. 13)

Sonnenkalb, H.—De scabie humana. Lipsiæ, 1841. pp. 46, 8vo. (S. 21)

Startin, J.—Two lectures on ringworm, etc. London, 1878. pp. 28, 8vo. (426)

Strahler, J.—De vegetabilibus corporis humani parasitis. Gryphiæ, 1850. pp. 32, 1 plate, 8vo. (S. 16)

Theopold, H.—Ueber einen Fall von Mycosis. Lemgo, 1865. pp. 24, 8vo. (319)

Vezin, H.—Ueber die Krätze und ihre Behandlung nach der englischen Methode. 2d Edit. Osnabrück, 1843. pp. 101, 8vo. (S. 14)

Vincens, I.—Récherches experimentales . . . . de l'herpès tonsurant chez les animaux. Paris, 1874. pp. 43, 8vo. (S. 1)

Wenzel, K.—Die wahre Krätze, u.s.w. Bamberg, 1825. pp. 111, 12mo. (S. 9)

White, J. C.—Vegetable parasites, and the diseases caused by their growth upon man. Boston, 1872. pp. 50, 8vo. (P.)

Wichmann, J. E.—Aetiologie der Krätze. Hannover, 1786. pp. 140, illustrated, 16mo.

Wigglesworth, E.—Auto-inoculation of vegetable parasites of the skin, etc. New York, 1878. pp. 9, 8vo. (Reprint.) (332)

Wilson, E.—Researches into the structure and development of . . . . entozoon folliculorum. n.p. (1843.) pp. 15, 3 plates, 4to. (V. 1)

——— On ringworm: its causes, pathology and treatment. London, 1847. pp. 102, 8vo.

Zürn, F. A.—Die thierischen Parasiten, u.s.w. Weimar, 1872. pp. 236, illustrated, 8vo.

——— Die pflanzlichen Parasiten, u.s.w. Weimar, 1874. pp. 474, illustrated, 8vo.

——— Ueber Milben welche Hautkrankheiten bei Hausthieren hervorrufen. Wien, 1877. pp. 51, 12mo. (269)

PEMPHIGUS.

Braun, L. R. von—Ueber die Erkenntniss und Behandlung des Pemphigus. Freyburg, 1823. pp. 79, 12mo. (S. 9)

Braune, C. G. C.—Versuch über den Pemphigus und das Blasenfieber. Leipzig, 1795. pp. 79, 1 plate, 12mo. (ib.)

Chaufepié, H. de—De pemphigo. Halæ, 1824. pp. 70, 8vo. (S. 21)

——— Specimen inaugurale de pemphigo. Halæ, n.d. pp. 12, 1 plate, 8vo. (ib.)

Faloy, L.—Du pemphigus aigu des nouveau nés et de la première enfance. Paris, 1875. pp. 80, 4to. (T. 3)

Geronimi, J. A.—Ueber Pemphigus. Leipzig, 1866. pp. 36, 8vo. (S. 21)

Gilibert, S.—Monographie du pemphigus, etc. Paris, 1813. pp. 411, 8vo.

Koch, W.—Ueber einen seltenen Fall von Pemphigus. Stuttgart, 1869. pp. 36, 8vo. (S. 7)

Martins, H. von—Ueber den Blasenausschlag, oder Pemphigus. Berlin, 1829. pp. 139, 8vo. (ib.)

Neumann, I.—Beitrag zur Kenntniss des Pemphigus. Wien, 1876. pp. 8, 1 plate, 8vo. (Extract.) (190)

Ungewitter, E.—Ueber Pemphigus. Marburg, 1857. pp. 27, 8vo. (S. 21)

SCLERODERMA.

Arning.—Beitrag zur Lehre vom Sclerema Adultorum. Würzburg, 1861. pp. 33, 8vo. (S. 27)

Barduzzi, D.—Sullo sclerema dei neonati. (Milano, 1875.) pp. 6, 8vo. (Reprint.) (2)

——— Studii clinici di dermatologia; Sclerodermia. Milano, 1876. pp. 129, 8vo. (S. 25)

Colliez, É.—Du sclérème des adultes. Paris, 1873. pp. 83, 8vo. (S. 3)

Herveon, R.—Étude sur la sclérodermie. Paris, 1877. pp. 36, 4to. (T. 6)

Köbner, H.—Klinische und experimentelle Mittheilungen aus der Dermatologie und Syphilidologie. Erlangen, 1864. pp. 144, 1 table, 8vo. (S. 4)

Lagrange, A.—Contribution a l'étude de la sclérodermie avec arthropathies et atrophie osseuse. Paris, 1874. pp. 78, 8vo. (S. 1)

Mosler.—Zur Casuistik des Hautsclerems bei Erwachsenen. n.p., n.d. pp. 9, 8vo. (S. 27)

Nordt, J.—Ueber das einfache Sclerom der Haut. Giessen, 1861. pp. 27, 8vo. (S. 10)

Schoenberg, G. J. A.—Commentatio de induratione telæ cellulosæ in neonatis observata. n.p., 1808. pp. 152, 16mo.

Wernicke, J.—Beitrag zur Lehre vom Hautsclerem. Jena, 1864. pp. 67, 8vo. (S. 27)

White, J. C.—Four cases of scleroderma. (Boston, 1875.) pp. 8, 8vo. (Reprint.) (S. 12)

TREATMENT.

Arnold, A.—Contribution a l'étude du traitement des ulcères par l'électricité. Paris, 1877. pp. 47, 4to. (T. 6)

Bazin, E.—Leçons sur le traitement . . . . des affections de la peau . . . . par . . . . des eaux minèrales, etc. Paris, 1870. pp. 467, 8vo.

Beard, G. M.—Electricity in the treatment of diseases of the skin. New York, 1872. pp. 13, 8vo. (Reprint.) (144)

Bell, W. A.—Michel's process for removing external tumors. London, 1871. pp. 31, 8vo. (S. 17)

Belliol.—Mémoire sur un nouveau mode de traitement pour la guérison des dartres, etc. 4th Edit. Paris, 1828. pp. 152, 8vo. (S. 11)

Besnier, E.—De l'emploi des tissus imperméables et notamment de la toile caoutchouc dans le traitement des affections de la peau. Paris, 1875. pp. 19, 8vo. (Reprint.) (S. 15)

Bönninghausen, C. von—Tableau . . . . des remèdes antipsoriques. Traduit de l'allemand par T. de Baclune et le Dr. Rapou, etc. Paris, etc., 1834. pp. 352, 8vo. (76)

Brückner, G. A.—Ueber Behandlung der Scabies. Leipzig, 1870. pp. 20, 8vo. (S. 21)

Bulkley, L. D.—A few points in the practical management of diseases of the skin. n.p. (1874.) pp. 8, 8vo. (Extract.) (S. 5)

——— On the use of the solid rubber bandage in the treatment of eczema and ulcers of the leg. New York, 1878. pp. 21, 8vo. (Reprint.) (416)

Carry, C. A.—Du role et des indications des bains dans les maladies de la peau. Paris, 1877, pp. 110, 8vo. (249)

Dalplaz et Fournier.—Notice sur l'hydrocotyle asiatica. Paris, n.d. pp. 16, 8vo. (333)

Dannenberger, H.—Ueber die Behandlung der Rose mit Silbersaltpeter. Giessen, 1862. pp. 28, 8vo. (306)

Deval, L.—Étude sur le baume gurjun . . . et quelques unes de ses applications thérapeutiques. Paris, 1877. pp. 61, 8vo. (245)

Diday, M. P., and Doyon, M. A.—Thérapeutique des maladies vénériennes et des maladies cutanées. Paris, 1876. pp. 887, 12mo.

Dufresnoy, A.—Des caractères, du traitement et de la cure des dartres, etc. Paris, Au vii. de la Republique. pp. 162, 8vo. (361)

Fox, G. H.—On the permanent removal of hair by electrolysis. New York, 1879. pp. 4. (Reprint.)

Fränkel, L.—Die Behandlung der Fieber, fieberhaften Hautausschläge . . . . mit Wasser. Berlin, 1853. pp. 144. 12mo. (325)

Franchis, R.—De l'emploi du chlorure de zinc dans quelques affections cutanées. Paris, 1875. pp. 39, 4to. (T. 3)

Fraser, Wm.—Treatment of diseases of the skin. Dublin, 1864. pp. 174, 16mo.

Griffith, S. C.—On dermatology, and the treatment of skin diseases by means of herbs, etc. London, 1866. pp. 101, 16mo.

Hancke, J. W.—Chlorzink als Heilmittel gegen Syphilis, Chronische Exantheme und Ulcerationen. Breslau, 1841. pp. 250, 12mo.

Laloy, H. G.—Du jaborandi, ses propriétes et son emploi dans le psoriasis. Paris, 1876. pp. 40, 4to. (T. 6)

Lepage, R. C.—Papers on the plant Gynocardia Odorata from which the chaulmoogra oil is obtained. 2d Edit. London, 1878. pp. 32, 8vo.

Lombroso, C.—I veleni del mais e la loro applicazione all' igiene e terapia sunto. Milano, n.d. pp. 36, 8vo. (Reprint.) (41)

Mapother, E. D.—The treatment of chronic skin diseases, etc. London and Dublin, 1872. pp. 62, 16mo.

Michaud, J. F. M. A. E.—Étude sur le traitement curatif des varices. Paris, 1876. pp. 80, 4to. (T. 5)

Milton, J. L.—On the treatment of lupus. London, 1866. pp. 27, 8vo. (S. 27)

——— On the modified Turkish and vapour bath . . . . in certain diseases of the skin. London, (1874.) pp. 38, illustrated, 8vo. (S. 12)

Nichols, J. E.—The best treatment of cancer. (Chicago), n.d. pp. 10, 8vo. (Extract.) (S. 17)

Pageot, H.—De l'emploi de la toile vulcanisées dans les affections cutanées. Paris, 1871. pp. 54, 4to. (T. 2)

Piffard, H. G.—On the treatment of chancroids by the actual cautery. New York, 1876. pp. 3, 8vo. (Reprint.) (82)

——— The actual cautery, and its employment in cutaneous surgery. Charleston, 1876. pp. 8, 8vo. (Reprint.)

——— The local treatment of eczema. New York, 1878. pp. 8, 8vo. (Reprint.) (417)

Saint-Hilaire, P. E. D.—Contribution au traitement des tumeurs érectiles. Paris, 1878. pp. 55, 4to. (T. 7)

Schede, M.—Ueber den Gebrauch des scharfen Löffels bei der Behandlung von Geschwüren. Halle, 1872. pp. 66, illustrated, 8vo. (S. 10)

Schwabe, C.—Heilmittel gegen Hautkrankheiten, u.s.w. Weimar, 1851. pp. 32, 16mo. (S. 26)

Squire, B.—On port wine mark and its obliteration without scar. London, 1876. pp. 32, 8vo. (S. 17)

——— On the treatment of psoriasis by an ointment of chrysophanic acid, etc. London, 1878. pp. 99, 8vo. (212)

Squire, B.—On the treatment of chronic eczema by a glycerole of the subacetate of lead. 2d Edit. London, 1878. pp. 43, 8vo. (Reprint.) (235)

Taylor, R. W.—On the various forms of pruritus cutaneus and their treatment. New York, 1877. pp. 18, 8vo. (Reprint.) (207)

——— On the treatment of the various forms of acne and of rosacea. New York, 1878. pp. 32, 8vo. (409)

Tillot, E.—Du traitement des affections cutanées par les eaux minérales, etc. Paris, 1867. pp. 51, 8vo. (Reprint.) (S. 25)

Trudeau, P.—Traitement du phlegmon diffus par le fer rouge. Paris, 1878. pp. 23, 1 table, 4to. (T. 6)

Vérité, A.—Note sur le traitement de l'eczéma et du psoriasis aux eaux arsenicales de La Bourboule. Paris, n.d. pp. 24, 8vo. (Reprint.) (S. 15)

Vogel, L.—Die Heilkunst der Krätze, der Flechten, und des Aussatzes. Erfurt u. Gotha, 1818. pp. 352, 2 plates, 12mo.

Weinhold, (D.)—Die Kunst veraltete hautgeschwüre besonders sogenannten salzflüsse, u.s.w. 2d Edit. Dresden, 1810. pp. 92, 16mo. (S. 26)

Weinhold, K. A.—Der Graphit, als neuentdecktes Heilmittel gegen die Flechten. Leipzig, (1808.) pp. 112, 16mo.

Zieger, W.—Einiges zur Behandlung der Scabies. Dresden, 1868. pp. 14, 8vo. (S. 21)

VARIA.

Adamkiewicz, A.—Die Secretion des Schweiss. Eine bilateral-symmetrische Nervenfunction. Berlin, 1878. pp. 69, 8vo. (298)

Alméras, J.—Des rash ou exanthèmes scarlatiniformes confondus avec les scarlatines. Paris, 1862. pp. 112, 8vo. (128)

Alvarez de Linéra, A.—De l'ichthyose. Paris, 1878. pp. 91, 4to. (T. 7)

Amblard J.—De l'herpès fébrile, etc. Paris, 1876. pp. 66, 4to. (T. 5)

American Dermatological Association.—Constitution and by-laws. New York, 1877. pp. 11, 24mo. (270)

André, G.—Considérations sur l'ulcère simple de la jambe. Paris, 1874. pp. 46, 4to. (T. 2)

Astay, F.—Étude sur les productions crouteuses de la peau. Paris, 1871. pp. 44, 4to. (ib.)

Audouard, P.—De l'acné sébacée partielle. Paris, 1878. pp. 52, 8vo.

Auspitz, H.—Die Seife und ihre Wirkung auf die gesunde und kranke Haut. Wien, 1867. pp. 96, 8vo. (S. 7)

Azéma, M.—De l'ulcère de Mozambique, suivi d'un rapport lu a la Société de chirurgie de Paris. Paris, 1863. pp. 78, 8vo. (S. 1)

Banau, J. B.—Histoire naturelle de la peau, etc. Paris, 1802. pp. 448, illustrated, 8vo.

Baudin, L.—De l'absorption par la peau des substances dissoutes dans l'eau. Paris, 1874. pp. 78, 4to. (T. 2)

Behier.—De la pellagre sporadique, etc. Paris, 1875. pp. 24, 8vo. (Reprint.) (371)

Behrend, F. J.—Ikonographische Darstellung der nicht-syphilitischen Hautkrankheiten. Leipzig, 1839. pp. 96, 30 plates. Fol. 43.

Bell, A. N.—Malignant pustule in the United States. Albany, 1862. pp. 25, 8vo. (S. 17)

Berenquier, J.—Des éruptions provoquées par l'ingestion des médicaments. Paris, 1874. pp. 58, 4to. (T. 3)

Berg, E.—Die radicale Heilung der Muttermale, u.s.w. Quedlinburg u. Leipzig, n.d. pp. 127, 16mo. (S. 19)

Bernhardt, M.—Die Sensibilitäts-Verhältnisse der Haut. Berlin, 1874. pp. 25, 1 plate, 8vo. (S. 6)

Bès, N.—De l'érythème noueux dans certaines maladies. Paris, 1872. pp. 80, 8vo. (F. M. 2)

Beschorner, F.—Der Weichselzopf, u.s.w. Breslau,. 1843. pp. 78, 8vo. (S. 14)

Biesiadecki, A. von—Ueber Blasenbildung bei Verbrennung der Haut. Wien, 1868. pp. 5, 1 plate, 8vo. (Reprint.) (S. 2)

——— **u. Oser.**—Untersuchungen aus dem Pathologisch-Anatomischen Institut. Wien, 1872. pp. 115, illustrated, 8vo. (ib.)

Blumenbach, I. F.—De generis humani varietate nativa, etc. Goettingæ, 1776. pp. 100, 2 plates, 8vo. (S. 16)

Bochardt, L.—Die Blasenrose im Gesicht und ihre Heilung. Karlsruhe, 1825. pp. 76, 12mo. (305)

Boer, O.—Ueber Ichthyosis. Berlin, 1873. pp. 32, 8vo. (S. 7)

Box, C. A.—Des ongles. De l'onyxis ulcéreux latéral. Paris, 1878. pp. 36, 4to. (T. 6)

Braunstein, H.—Ueber Alopecia Areata als Trophoneurose. Freiburg, 1873. pp. 31, 8vo. (403)

Breda, A.—Un caso di lichene rosso, due di lupus tuberculo-ulceroso della faccia. Padova, 1877. pp. 13, 8vo. (202)

——— Caso di eritema multiforme essudativo da lesione funzionale del simpatico. Padova, 1877. pp. 27, 8vo. (203)

Bremond, J. J. L., et E.—Absorption cutanée. Paris, 1873. pp. 94, 8vo. (S. 1)

Bulkley, L. D.—The relations of the nervous system to diseases of the skin. New York, 1874. pp. 45, 8vo. (Reprint.) (S.12)

——— On herpes gestationis, etc. New York, 1874. pp. 32, 8vo. (Reprint.) (S. 5)

——— The relations of the urine to diseases of the skin. New York, 1875. pp. 33, 8vo. (Reprint.) (S.17)

——— Analysis of one thousand cases of skin diseases, with cases and remarks on treatment. Louisville, 1875. pp. 29, 8vo. (Reprint.) (S.12)

——— Are eczema and psoriasis local diseases of the skin? etc. Phila., 1877. pp. 19, 8vo. (Reprint). (254)

——— On the recognition and management of the gouty state in diseases of the skin. New York, 1877. pp. 25, 8vo. (Reprint.) (253)

——— On the nomenclature and classification of diseases of the skin. New York, 1877. pp. 10, 8vo. (Reprint.) (14)

——— Two cases of morphœa, etc. New York, 1877. pp. 6, 8vo. (Reprint.) (10)

——— Analysis of seven hundred and seventy-four cases of skin disease, etc. New York, 1877. pp. 48, 8vo. (Reprint.) (415)

——— On diet and hygiene in diseases of the skin. New York, 1878. pp. 18, 8vo. (Reprint.) (400)

Butzke, E. L.—Denkschrift über den Weichselzopf, u.s.w. Berlin, 1859. pp. 242, 8vo. (S. 4)

Campbell, R.—The relations existing between eczema and psoriasis. New York, 1877. pp. 9, 8vo. (Reprint.) (18)

Cazenave, A.—De la décoration humaine, hygiène de la beauté. Paris, 1867. pp. 324, 16mo.

——— Pathologie générale des maladies de la peau. Paris, 1868. pp. 386, 8vo.

Chabbert L.—De l'anthrax des lèvres, etc. Paris, 1877. pp. 44, 8vo. (401)

Charpentier, P.—Étude sur le scorbut en général, etc. Paris, 1871. pp. 73, 8vo. (F. M. 3)

Chossat, T.—Des conditions pathogéniques des œdemes. Paris, 1874. pp. 134, 4to. (T. 3)

Clauzel, E.—Du diagnostic de la généralisation des tumeurs mélaniques par l'examen microscopique du sang, etc. Paris, 1874. pp. 77, 8vo. (S. 3)

Colomiatti, V. F.—Il reticolo malpighiano nella psoriasi. Torino, 1874. pp. 7, 8vo. (S. 25)

——— Frammenti di dermatologia. Torino, 1876. pp. 51, 3 plates, 8vo. (ib.)

Colson, A.—Des taches veineuses. Paris, 1878. pp. 52, 8vo.

Corning, J. L. Jr.—Zwei Arbeiten aus dem Pathologisch-Anatomischen Institut zu Würzburg. Wiesbaden, 1878. pp. 19, 2 plates, 8vo. (410)

Cousset, F.—Contribution a l'etude d'eruptions cutanées dans les maladies chirurgicales. Paris, 1876. pp. 36, 4to. (T. 5)

Cornil, A. and Trasbot, L.—De la melanose. Paris, 1868. pp. 106, illustrated, 4to. (V. 1)

Crassus, H.—Tractatus de tumoribus praeter naturam, de solutione continui, de ulceribus. Venetiis, 1612. pp. 44, 12mo. (276)

Cundell, Juler H.—Urticaria, or nettle-rash. Cincinnati, 1878. pp. 23, 8vo. (Reprint.) (239)

Damon, H. F.—The neuroses of the skin: their pathology and treatment. Phila., 1868. pp. 114, 8vo.

——— The structural lesions of the skin: their pathology and treatment. Phila., 1869. pp. 255, 3 plates, 8vo.

Danlos, H.—Étude sur la menstruation au point de vue de son influence sur les maladies cutanées. Paris, 1874. pp. 50, 8vo. (S. 1)

Debove, M.—Le psoriasis buccal. Paris, 1873. pp. 54, 1 plate, 8vo. (ib.)

Débrousse-Latour, J.—Des sueurs locales. Paris, 1873. pp. 56, 8vo. (S. 8)

De Gorter, J.—De perspiratione insensibili. Lugduni Batavorum, 1736. pp. 560, illustrated, 8vo.

Demeules, E.—Acné hypertrophique, etc. Marseille, 1873. pp. 10, 1 plate, 8vo. (S. 3)

De Mericourt, Le Roy.—Mémoire sur la chromidrose . . . . suivi de l'étude microscopique, etc. Par C. Robin, et d'une note sur le même sujet, par ——· Ordoñez. Paris, 1864. pp. 176, 8vo. (Reprint.) (S. 1)

Derby, R. H.—Zur Anatomie von Prurigo. n.p., 1869. pp. 7, 1 plate, 8vo. (Reprint.) (S. 2)

Derrécagaix, L.—Erythème scarlatiniforme rhumatismal. Paris, 1874. pp. 52, 4to. (T. 4)

Deschamps, J. T.—Contribution a l'étude des éruptions médicamenteuses. Arcissur-Aube, 1878. pp. 82, 4to. (T. 7)

Désert, A. A.—Des dilatations lymphatiques, etc. Paris, 1877. pp. 96, 2 plates, 4to. (T. 6)

Dietz, G.—De la diphthérite cutanée et de son traitement par le chlorate de potasse. Strasbourg, 1862. pp. 41, 4to. (T. 5)

Dohrn, R.—Beiträge zur Druckempfindlichkeit der Haut. n.p., n.d. pp. 29, 8vo. (Extract.) (309)

Dounon, P. L. V.—Étude sur la verruga, etc. Paris, 1871. pp. 58, 1 plate, 4to. (T. 2)

Doussin-Dubreuil, J. L.—Ueber die Verrichtungen der Haut und die ausstörung derselben entstehenden schweren Krankheiten. Ilmenau, 1828. pp. 118, 8vo. (S. 21)

Draper, W. H.—On the nature of the gouty vice. New York, 1875. pp. 32, 8vo. (S. 17)

Drouet, L. A.—Recherches expérimentales sur le role de l'absorption cutanée dans la paralysie saturnine. Paris, 1875. pp. 58, 4to. (T. 3)

Duhamel.—Considerations pratiques sur les maladies scrofuleuses et leur traitement par les preparations d'or. Paris, 1839. pp. 144, 8vo.

Durian, F. et Legrand M.—De la peliose rhumatismal ou érythéme noueux rhumatismal. Paris, 1858. pp. 14, 8vo. (S. 11)

Dumontier, F. A. C.—De frambœsia in colonia Surinamensi observata. Trajecti ad Rhenum, 1855. pp. 23, 8vo. (S. 27)

Duhring, L. A.—Case of painful neuroma of the skin. Phila., 1873. pp. 11, 8vo. (Reprint.) (S. 5)

——— Pruritus hiemalis; an undescribed form of pruritus. Phila., 1874. pp. 20, 8vo. (Reprint.) (ib.)

——— A case of the so-called xeroderma (or parchment skin) of Hebra. Phila., 1878. pp. 7, illus., 8vo. (Reprint.) (411)

Durkee, S.—Contributions to dermatology, eczema, impetigo, etc. 2d Edit. Boston, 1870. pp. 76, 8vo. (S. 5)

Dzondi, K. H.—Die Hautschläcke, u.s.w. Leipzig, 1822. pp. 88, 8vo. (Reprint.) (S. 20)

Ebers, J. J. H.—Die Hæmathidrosis, u.s.w. Breslau, 1856. pp. 56, 8vo. (291)

Eltzbacher, S.—De mammæ muliebris carcinomate. Berolini, 1857. pp. 31, 8vo. (S. 21)

Erichsen, J. E.—A practical treatise on the diseases of the scalp. London, 1842. pp. 192, 6 plates, 8vo.

Faber, C. F.—Die Hautkrankheit Molluscum. Tübingen, 1840. pp. 34, 8vo. (S. 7)

Fagge, C. H.—On the anatomy of a case of molluscum fibrosum. London, 1870. pp. 16, 1 plate, 8vo. (Reprint.) (S. 5)

——— Catalogue of the models of diseases of the skin, etc. London, 1876. pp. 269, 8vo.

Feld, J.—Medationes nonnullae de eruptione vesiculosa in febribus symptomatica. Gryphiæ, 1847. pp. 37, 8vo. (S. 22)

Fleischer, R.—Untersuchungen über das Resorptionsvermögen der menschlichen Haut, u.s.w. Erlangen, 1877. pp. 81, 8vo. (58)

Fleischmann, G.—Die äussere Narbe. Würzburg, 1859, pp. 34, 8vo. (S. 27)

Fox, G. H.—A clinical study of molluscum contagiosum. Chicago, 1878. pp. 10, 8vo. (Reprint.) (363)

Fox, G. H.—Photographic illustrations of skin diseases. Parts I. & II. New York, 1879. 4to. (Current.)

Fox, Tilbury.—On acne and its treatment. Edinburgh, 1873. pp. 15, 8vo. (Reprint.) (S. 5)

——— Key to skin diseases, etc. London, 1875. pp. 11, 8vo. (S. 12)

——— **and Crocker, H. R.**—The histology of dysidrosis. London, 1878. pp. 4, 2 plates, 8vo. (Reprint.) (428)

Franz, G. A.—De signis ex unguibus. Berolini, 1840. pp. 36, 8vo. (S. 20)

Frenking, A.—De cutis humanæ functionibus. Berolini, 1839. pp. 36, 8vo. (S. 16)

Friedlaender, C.—Ueber Epithelwucherung und Krebs. Strassburg, 1877. pp. 57, 2 plates, 8vo. (S. 22)

Frison. E.—Contribution a l'anatomie pathologique des maladies de la peau. Paris, 1876. pp. 41, 1 plate, 4to. (T. 51)

Gale, H. S.—Clinical atlas of skin diseases, etc. London (1875). pp. 22, frontispiece and 10 plates, 8vo. (S. 12)

Gambier, P.—Contribution a l'étude des tumeurs cutanées d'origine sudoripare. Paris, 1878. pp. 50, 4to. (T. 7)

Gaskoin, G.—On the psoriasis or lepra. London, 1875. pp. 206, 8vo.

Gay. J.—On varicose disease of the lower extremities and its allied disorders, etc. London, 1868. pp. 171, 5 plates, 8vo. (S. 12)

Geisbüsch. M.—De pustula maligna. Bonnæ, 1840. pp. 54, 1 plate, 8vo. (S. 21)

Gempt, J. H.—Herpetis naturam atque causas lustrans. Marburgi Cattorum, 1790. pp. 110, 16mo. (S. 26)

Gigot-Suard, L.—L'Herpetisme, pathogenie, manifestations, etc. Paris, 1870. pp. 468, 8vo.

——— **L'Uricémie.**—Affections de la peau, etc. Paris, 1875. pp. 306, 8vo. (S. 8)

Gintrac, H.—De la pellagre dans le départment de la Gironde. Bordeaux, 1863. pp. 43, 8vo. (S. 15)

Gronemann, G. J.—De plica polonica adjecta observatione. Berlin, 1862. pp. 32, 12mo. (S. 9)

Guillot, A. L. M.—Du traitement de l'acne par le savon noir. Paris, 1875. pp. 48, 4to. (T. 3)

Guermonprez, F. J. O.—Contribution a l'étude de la maladie bronzée d'Addison. Paris, 1876 pp. 110, 8vo. (S. 15)

Gurlt, E. F. und Hertwig, C. H.—Vergleichende Untersuchungen über die Haut des Menschen und der Haus-Säugethiere, u.s.w. Berlin, 1844. pp. 122, 2 plates, 8vo. (S. 22)

Haase, J. G.—De vasis cutis et intestinorum absorbentibus, etc. Lipsiæ, 1786. pp. 34, 5 plates. Fol. 40.

Haight, D. L.—Ueber Blasenbildung bei einigen Hautkrankheiten. (Wien), 1868. pp. 8, 1 plate, 8vo. (Reprint.) (S. 2)

Hallermann, A.—Beitrag zur Erkenntniss der "Purpura." Bonn, 1869. pp. 33, 8vo. (S. 22)

Hamburger, E.—Ueber die Irrlehre von der Plica Polonica. Berlin, 1861. pp. 165, 8vo. (S. 4)

Hammond, W. A. (and others).—Report . . . . of the sanitary commission on the subject of scurvy, etc. 2d Edit. Washington, 1863. pp. 29, 8vo. (Reprint.) (21)

Helfft, H.—De desquamatione epidermidis atque epithelii. Berolini, 1842. pp. 38, 8vo. (S. 20)

Hauer, G. A.—De la maladie charbonneuse. Paris, 1875. pp. 99, 8vo. (S. 11)

Hemmer, C. F.—Sistens observationem de gangrena. Marburgi Cattorum, 1790. pp. 34, 16mo. (S. 26)

Hesse, C.—De colenda cutis actione. Berolini, 1854. pp. 31, 8vo. (S. 22)

Heyfelder, F.—De lipomate. n.p., n.d. pp. 15, 8vo. (S. 14)

——— De steatomate. n.p., n.d. pp. 7, 8vo. (ib.)

Hoeber, E. W.—Ueber die erste Entwicklung der Krebs-Elemente. (Wien, 1875.) pp. 12, 2 plates, 8vo. (Reprint.) (S. 22)

Homolle, G.—Des scrofulides graves de la muqueuse buccopharyngienne, &c. Paris, 1875. pp. 127, 8vo. (S. 8)

Hutchinson, J.—A descriptive catalogue . . . . of diseases of the skin. Part II. London, 1875. pp. 98, illustrated, 4 plates, 8vo. (65)

Jackson, S. H.—Dermato-pathologie, etc. Translated by ———. Erfurt, 1794. pp. 368, 12mo.

Jacobovics, M. M.—Du molluscum, etc. Paris, 1840. pp. 116, 4 plates, 8vo. (S. 15)

Jahn, F.—Zur Naturgeschichte der Schönleinschen Binnenausschläge oder Entexantheme. Eisenach, 1840. pp. 225, 8vo. (326)

Jenner, E.—An inquiry into the causes and effects of the variolæ vaccinæ, etc. 3d Edit. London, 1801. pp. 182, illus., 4to.

Jeudi de Grissac, J. A.—Des eruptions quiniques. Paris, 1876. pp. 56, 4to. (T. 6)

Joel, S.—Adumbratio cutis physiologica. n.p., 1821. pp. 73, 8vo. (S. 16)

Kleiner, G.—Ueber die Psydracia, oder die unächte Krätze. Tübingen, 1841. pp. 30, 12mo. (S. 9)

Kluge, C. G. L.—De cutis exsiccatione certo mortis signo. Lipsiæ, 1842. pp. 16, 4to. (V. 2)

Kuepper, F. C.—De carcinomate epitheliali nonnulla. Bonnæ, 1863. pp. 30, 8vo. (S. 21)

Kochmann, M.—Beitrag zur Lehre von der furunculösen Entzündung. (Reprint.) Prag, 1873. pp. 60, 8vo.

Koester, K.—Die Entwicklung der Carcinome und Sarcome. Würzburg, 1869. 2 parts. pp. 100, illustrated, 8vo.

Kohn, M.—Ueber Lichen scrophulosum. (Wien,) 1868. pp. 16, 1 plate, 8vo. (Reprint.) (S. 2)

Kortmann, A.—De psoriasi. Gryphiæ, 1868. pp. 24, 8vo. (S. 22)

Kossmann, R. A.—Ueber die Talgdrüsen der Vögel. Leipzig, 1871. pp. 34, 2 plates, 8vo. (S. 10)

Kunow, O.—Prurigo und Pruritus. Berlin, 1874. pp. 31, 12mo. (S. 9)

Labattu, J.—Des anthrax et furoncles de la face. Paris, 1874. pp. 48, 4to. (T. 3)

Laget, E.—Étude sur le purpura simplex à forme exanthématique. Paris, 1875. pp. 60, 8vo. (S. 15)

Lazarus, J—.De plica polonica. Berolini, 1848. pp. 27, 8vo. (S. 22)

Lebert, H.—Ueber Keratose, u.s.w. Breslau, 1864. pp. 150, 8vo. (S. 4)

Lessing, J. C.—Symbolæ ad anatomia cutis pathologicam. Halæ, 1841. pp. 34, 8vo. (S. 27)

Leture, A.—Considérations sur la nature et le traitement de la pelade. Paris, 1878. pp. 35, 4to. (T. 7)

Levi, D. M.—Recherches sur le vitiligo, etc. Paris, 1865. pp. 55, 1 plate, 8vo. (S. 25)

Levi, J.—De varia scabiei indole. Goettingæ, 1790. pp. 56, 16mo. (S. 26)

Liveing, R.—A handbook on the diagnosis of skin diseases. New York, 1879. pp. 266, 16mo.

Lombroso, C.—Studi clinici ed esperimentali sulla natura, causa e terapia della pellagra. Bologna, 1869. pp. 376, 8vo.

Looten, J.—Des scrofulides des muqueuses. Paris, 1878. pp. 195, 8vo. (367)

Lugol, J. G. A.—Researches on scrofulous diseases. Translated by A. S. Doane. 2d Edit. New York, 1847. pp. 326, 12mo.

Lutze, A.—Krätze, Syphilis, Sykosis, und deren homöopathische Heilung. Cöthen, 1860. pp. 40, 12mo. (241)

Malassez, L.—Études sur le molluscum. Paris, 1872. pp. 26, 3 plates, 8vo. (S. 3)

Marsden, A.—A new and successful mode of treating certain forms of cancer, etc. 2d Edit. London, 1874. pp. 126, 5 plates, 8vo.

Martin, A.—De la pellagre. Paris, 1873. pp. 44, 4to. (T. 2)

Maquerel, A. F.—Du diagnostic différentiel des ulcères de la face. Paris, 1872. pp. 60, 1 table, 4to. (ib.)

Mauriac, C.—Du psoriasis de la langue et de la muqueuse buccale. Paris, 1874. pp. 98, 8vo. (S. 24)

——— Leçons sur l'herpès nevralgique des organes genitaux. Paris, 1876. pp. 112, 8vo. (S. 25)

Maury, F. F., and Duhring, L. A.—Case of exsection of the brachial plexus of nerves for the relief of painful neuroma of the skin. Phila., 1874. pp. 13, 8vo. (Reprint.) (S. 5)

Maxwell, J.—Observations on yaws, etc. Edinburgh & London, 1839. pp. 134, 8vo.

Meilcher, F. X.—De tractamine homœopathico psoræ. n.p., 1831. pp. 38, 8vo. (S. 20)

Ménager, É. L.—De l'absorption cutanée de l'iode et de quelques accidents consécutifs chez l'enfant. Paris, 1877. pp. 31, 4to. (T. 6)

Meyer, F.—De l'influence des émotions morales sur le développement des affections cutanées. Paris, 1876. pp. 55, 4to. (T. 5)

Mistarlet, L.—Quelques cas purpura chez les enfants. Paris, 1876. pp. 34, 4to. (ib.)

Misset, C.—Étude sur la pathologie des glandes sébacées. Paris, 1872. pp. 119, illustrated, 8vo. (F. M. 1)

Mollière, H.—Recherches cliniques sur la nosographie du purpura hæmorrhagica et des affections pétéchiales. Lyons, 1874. pp. 32, 8vo. (S. 8)

Monod, C.—Étude sur l'angiome simple sous-cutané circonscrit, etc. Paris, 1873. pp. 85, 1 plate, 8vo. (S. 3)

Moore, C. H.—Rodent cancer, etc. London, 1867. pp. 128, 4 plates, 12mo.

Mornard, H.—Sémiologie des éruptions cutanées dans la fièvre typhoïde. Paris, 1875. pp. 36, 4to. (T. 3)

Mosler, F.—Zur Casuistik des Hautscleremes bei Erwachsenen. Berlin, n.d. pp. 9, 8vo. (S. 22)

Musellèr, P.—Étude sur la valeur séméiologique de l'ecthyma. Paris, 1876. pp. 125, 8vo. (S. 25)

Neumann, I.—Beitrag zur Kenntniss des Lichen exsudativus ruber (Schwindflechte). (Wien,) 1868. pp. 6, 1 plate, 8vo. (Reprint.) (S. 2)

——— Ueber die senilen Veränderungen der Haut des Menschen. (Wien,) 1869. pp. 15, 2 plates, 8vo. (Reprint.) (ib.)

——— Zur Kenntniss der Lymphgefässe der Haut des Menschen und der Säugethiere. Wien, 1873. pp. 31, 8 plates, 8vo. (S. 2)

——— Aerztlicher Bericht . . . . Blatternkranken, u.s.w. Wien, 1874. pp. 159, illustrated, 8vo. (S. 14)

——— Ueber Nævus papillaris, u.s.w. (Wien, 1877.) pp. 8, 1 plate, 8vo. (Reprint.) (422)

——— Ueber Behandlung der Psoriasis vulgaris, ... mit Chrysophansaure und Goa-Pulver. (Wien, 1878.) pp. 11, 8vo. (Reprint.) (424)

Neucrantzj, P.—De purpura. Lubec, 1648. pp. 552, 12mo.

Neyreneuf.—Du traitement des tumeurs sous-cutanées par l'application de la pate sulfo-safranée, etc. Paris, 1872. pp. 84, 8vo. (F. M. 1)

Ohnefalsch-Richter, L.—De cutis functionibus. Misniæ, 1849. pp. 30, 8vo. (S. 16)

Pagenstecher, F.—Ueber die Entwicklung der Epithelzellen bei chronischen Hautkrankheiten und dem Epithelialcarcinom. (Wien), 1868. pp. 14, 1 plate, 8vo. (Reprint.) (S. 2)

Pantlen, C.—Ueber Tuberculoṣe der äusseren Haut. Tübingen, 1873. pp. 22, 8vo. (S. 7)

Paquet, M. A.—Des kystes dermoïdes du plancher de la bouche. Paris, 1867. pp. 11, 8vo. (Reprint.) (S. 1)

Peltz, A.—Ueber Rubeola Substantiva. Leipzig, 1868. pp. 16, 8vo. (S. 22)

Penleve, V.—Contribution à l'étude de la mélanose généralisée. Paris, 1866. pp. 65, 8vo. (S. 1)

Percheron, É.—Étude sur la dermatite exfoliatrice généralisée. Paris, 1875. pp. 118, 1 table, 8vo. (S. 8)

Petrykowski, A. B. C. de—De plica polonica. Gryphiæ, 1848. pp. 39, 8vo. (S. 20)

Phillips, B.—Scrofula: its nature, its causes, its prevalence, and the principles of treatment. London, 1846. pp. 379, illustrated, 8vo.

Picaud, A.—Des eruptions cutanées consécutives aux lésions traumatiques. Paris, 1875. pp. 52, 4to. (T. 3)

Piffard, H. G.—Histological contribution. New York, 1870. pp. 3, illustrated, 8vo. (Extract.)

——— The compound microscope as an aid to the study of the skin, etc. New York, 1875. pp. 5, illustrated, 8vo. (Reprint.)

——— The rheumic diathesis in dermatology. New York, 1876. pp. 18, 8vo. (Reprint.)

Polya, J.—Beobachtungen über die Flechte, u.s.w. Leipzig, 1837. pp. 160, 8vo. (S. 14)

Pooley, J. H.—Case of epithelioma of the cheek and lower eyelid, etc. New York, (1873.) pp. 8, illustrated, 8vo. (Reprint.) (S. 5)

——— Nævus. New York, 1873. pp. 28, 8vo. (Reprint.) (283)

Porta, L.—Dei tumori follicolari sebacei, etc. Milano, 1859. pp. 40, 2 plates, 4to. (T. 5)

Profeta, G.—Sulla elefanziasi saggio. Palermo, 1868. pp. 19, 2 plates, 8vo. (S. 1)

Purdon, H. S.—Notes on erythema nodosum. Dublin, 1872. pp. 4, 8vo. (Reprint.) (S. 5)

Ralfe, C. H.—An inquiry into the general pathology of scurvy. London, 1877. pp. 25, 8vo. (Reprint.) (187)

Raynaud, N.—Vitiligo et goitre exophthalmique. Paris, 1875. pp. 42, 4to. (T. 3)

Reisland, P.—Zwei Fälle von gleichzeitigem Vorkommen zweier acuter Exantheme an einem und desselben Individuum. Leipzig, n.d. pp. 27, 8vo, (S. 22)

Rémy, A. C.—Recherches histologiques sur l'anatomie normale de la peau de l'homme à ses differentes ages. Paris, 1878. pp. 87, 3 plates, 8vo. (386)

Renault, A.—Essai sur l'influence de l'alcoolisme dans le développement de plusieurs groupes d'affections cutanées. Paris, 1874. pp. 72, 4to. (T. 4)

Ritter von Rittershain, G.—Die exfoliative Dermatitis jüngerer Säuglinge. Berlin, 1878. pp. 22, 4to. (Reprint.)

Rindfleisch.—Area celsi. (Wien), 1869. pp. 8, 1 plate, 8vo. (Extract.) (S. 27)

Robert, L.—Des épanchements primitifs de sérosité par décollement traumatique de la peau et des couches sous-jacéntes. Paris, 1873. pp. 38, 4to. (T. 21)

Robinson, A. R.—Pompholyx, etc. New York, 1877. pp. 17, illustrated, 8vo. (Reprint.) (20)

——— Sycosis, etc. New York, 1877. pp. 48, illustrated, 8vo. (Reprint.) (17)

Rochard, F.—Traitement des maladies de la peau, etc. Paris, 1877. pp. 224, 8vo. (S. 24)

Roehrig, A.—Die Physiologie der Haut, u.s.w. Berlin, 1876. pp. 217, 8vo. (S. 18)

——— Die Haut als Applicationsorgan. n.p., n.d. pp. 50, 8vo. (S. 14)

Roeser, J. Ritter von—Ueber einige Krankheiten des Orients. Augsburg, 1837. pp. 87, 4 plates, 8vo. (S. 22)

Ross, G.—On certain diseases of the skin associated with gout, etc. London, 1866. pp. 86, 12mo. (Reprint.) (23)

Roussel, T.—Traité de la pellagre et des pseudo-pellagres. Paris, 1866. pp. 656, 8vo.

Rueff, J.—Libellus de tumoribus quibusdam phlegmaticis non naturalibus. Tiguri, 1606. pp. 59, frontispiece, 2 plates, 12mo. (281)

Satterlee, F. Le R.—Neuroses of the skin. New York, 1875. pp. 18, 8vo. (Reprint.) (S. 12)

Sayre, L. A.—Remarkable case of deception. A woman professing to secrete nothing but charcoal and stones for a number of years, etc. Albany, 1863. pp. 7, 1 plate, 8vo. (Reprint.) (120)

Schabel, A.—Ichthyosis congenita. Stuttgart, 1856. pp. 31, 8vo. (S. 7)

Scherzer, H. A.—Ueber Telangiectasie. Leipzig, 1867. pp. 34, 8vo. (S. 16)

Schlefferdecker, W.—Ueber den Einfluss der acuten Hautausschläge auf die Kindersterblichkeit. Königsberg, 1869. pp. 36, 4to (V. 1)

Schilling, P. C.—Rendiconto statistico-clinico delle malattie cutanee . . . 1873. Roma, 1874. pp. 43, 4to. (V. 2)

——— Rendiconto statistico-clinico delle malattie cutanee . . . 1874. Roma, 1874. pp. 23, 2 plates, 4to. (ib.)

——— Rendiconto statistico-clinico delle malattie cutanee, etc. Fasc. 2. Roma, 1875. pp. 27, 2 plates, 8vo. (137)

——— ——— Fasc. 3. Roma, 1875. pp. 20, 2 plates, 8vo. (132)

Schweich, J. H.—Disquisitiones ætiologicæ de morbis herpeticis et alliis chronicis exanthematibus. Berlin, 1835. pp. 32, 8vo. (278)

Schön.—Den trockenen und nässenden Flechten. 2d Aufl. Berlin, n.d. pp. 40, 16mo.

Schrauth, J. B.—De cutis functionibus et colore, etc. Monachii, 1830. pp. 32, 8vo. (373)

Seitz, F.—Der Freisel, etc. 2d Edit. Erlangen, 1852. pp. 477, 8vo.

Seligmann, E.—De epidermidis, imprimis neonatorum, desquamatione. Berolini, 1841. pp. 32, 1 plate, 8vo. (S. 20)

Serre, A. H.—Nouveau traitement . . . de l'inflammation de la peau, etc. Montpellier, 1834. pp. 150, 8vo. (S. 25)

Simon, L.—Étude sur le psoriasis buccal. Paris, 1878. pp. 43, 4to. (T. 7)

Simon, O.—Die Localisation der Hautkrankheiten histologisch und klinisch, u.s.w. Berlin, 1873. pp. 162, 5 plates, 8vo. (S. 2)

Simon, T.—De albinisino partiali, vitiliginæ, vitiligoidea. Berolini, 1861. pp. 32, 8vo. (S. 27)

Sinz, C.—De elephantiasi arabum. Turici, 1842. pp. 28, 2 plates, 4to. (V. 2)

Sonnenburg.—Zwei Fälle von Malum perforans pedis. n.p., n.d. pp. 9, 8vo. (Extract.) (289)

Soyer, C.—De l'œdème pourpré fébrile. Paris, 1878. pp. 60, 4to. (T. 7)

Squire, B.—On the topography of skin diseases as a means of determining their diagnosis. London, 1875. pp. 27, 8vo. (S. 17)

——— Two cases of psoriasis, the one treated by prolonged daily immersions, the other by an ointment of chrysophanic ointment. (London, 1878.) pp. 8, 8vo. (Reprint.) (407)

——— Atlas of the diseases of the skin. London, 1878. Part I. pp. 89, illustrated, 3 plates, 8vo. (350)

——— Outlines, etc. (London, n.d.) 8 plates, 8vo. (S. 17)

Staudacherus, H. G.—De labiorum pustulis. n.p. 1709. pp. 16, 8vo. (S. 23)

Steinhausen, A. F.—De singulari epidermidis deformitate. Berlin, 1838. pp. 14, 1 plate, 4to. (V. 2)

Stubenrauch, J.—Ueber fortschreitende Papillarwucherungen der Haut. Giessen, 1855. pp. 30, 1 plate, 8vo. (S. 27)

Studzienieckl, F. von—Die cornification und die lues cornificativa (plica polonica.) Wien, 1854. pp. 175, 8vo.

Tauszky, R.—On the epithelial changes produced by carcinomatous growths. Translated by O. Frankenberg. (Columbus, 1876.) pp. 13, 8vo. (147)

Taylor, I. E.—On the sunburnt appearance of the skin as an early diagnostic symptom of supra-renal capsule disease. New York, 1856. pp. 20, 3 plates, 8vo. (Extract.) (S. 17)

Tellkampf, T. A. O.—Beiträge zur Lehre von den Hautkrankheiten. Wien, 1839. pp. 31, 8vo. (S. 20)

Testut, L.—De la symétrie dans les affections de la peau. Paris, 1877. pp. 490, 8vo. (S. 24)

Thiersch, C.—Der Epithélialkrebs namentlich der Haut. Leipzig, 1865. pp. 310, mit einem atlas mikroskopischer abbildungen von 11 tafeln, 8vo.

Tremblez, J. A.—Des eruptions cutanées survenant dans le cours des affections chirurgicales. Paris, 1876. pp. 63, 4to. (T. 5)

Van Harlingen, A.—A contribution to the pathology of epithelium. (Phila., 1876.) pp. 8, illustrated, 8vo. (Reprint.) (24)

Vérité, A.—Le psoriasis herpetique aux eaux de la Bourboule. Paris, 1876. pp. 20, 8vo. (Reprint.) (S. 25)

Voigt, C. A.—Ueber ein System neu entdeckter Linien an der oberfläche des menschlichen Körpers, u.s.w. n.p., 1856. pp. 11, 8vo. (Reprint.) (S. 2)

——— Beiträge zur Dermato-neurologie, etc. Wien, 1864. pp. 40, 2 plates, 4to. (V. 1)

Wadsack, E.—Ueber Bildung und Krankheiten der Narbe. Giessen, 1862. pp. 58, 8vo. (S. 27)

Warion, J. P. A.—Du sycosis. Strasbourg, 1861. pp. 45, 4to. (T. 5)

Warren, J. C.—The anatomy and development of rodent ulcer, etc. Boston, 1872. pp. 66, illustrated, 8vo.

——— Ueber Keloid. (Wien), 1868. pp. 6, 1 plate, 8vo. (Reprint.) (S. 2)

——— Note on the anatomy and pathology of the skin. Boston, 1877. pp. 8, illustrated, 8vo. (Reprint.) (113)

Webber, S. G.—Changes in the skin and its appendages following lesions of nervous structures. Boston, 1874. pp. 11, 8vo. (Extract.) (146)

Weigert, C.—Anatomische Beiträge zur Lehre von den Pocken. II Theil. Ueber pockenähnliche Gebilde, u.s.w. Breslau, 1875. pp. 46, 8vo. (S. 22)

Weir, R. F.—Ichthyosis of the tongue and vulva. New York, 1875. pp. 19, 8vo. Reprint.) (S.12)

White, J. C.—An analysis of five thousand cases of skin diseases, etc. (Boston, 1876.) pp. 32, 8vo. (Reprint.) (S.17)

——— Variations in type and in prevalence of diseases of the skin in different countries of equal civilization. Phila., 1877. pp. 20, 8vo. (Reprint.) (134)

——— Dermatology in America, etc. New York, 1878. pp. 14, 8vo. (Reprint.) (225)

Wichmann, C. A.—Abhandlung von den Muttermalen. Leipzig, 1758. pp. 91, 8vo. (S. 23)

Wiegand, V. I.—De cancro, quem aquaticum vocant adnexa hujus morbi historia. Marburgi, 1827. pp. 40, 12mo. (425)

Wigglesworth, E. Jr.—Affections of the sebaceous glands. (Boston, 1875.) pp. 11, 8vo. (Reprint.) (S.12)

——— Faulty innervation as a factor in skin diseases. (New York, 1878.) pp. 6, 8vo. (Reprint.) (331)

Wilbrand, J. B.—Das Hautsystem in allen seinen Verzweigungen, etc. Giessen, 1820. pp. 157, 12mo. (S. 9)

Wilckens, M.—Ueber die Verknöcherung und Verkalkung der Haut, u.s.w. Göttingen, 1858. pp. 23, 1 plate, 8vo. (S. 21)

Wille, F.—De cutis dignitate. Lipsiæ, 1837. pp. 26, 4to. (V. 2)

Williams, J. W.—Skin diseases of constitutional origin; their etiology, pathology and treatment. 3d Edit. London, 1874. pp. 124, 12mo. (S.13)

Willis, R.—On the special function of the sudoriparous and lymphatic systems, etc. London, 1867. pp. 72, 8vo.

Wilson, E.—Healthy skin, etc. 7th Edit. London, 1866. pp. 303, 16mo.

Woodward, J. J.—On the structure of cancerous tumors, etc. Washington, 1873. pp. 40, illustrated, 8vo.

Yandell, L. P., Jr.—Report on dermatology, syphilis, and other exanthemata. Louisville, 1877. pp. 8, 8vo. (Reprint.) (57)

——— Malaria and struma in their relation to the etiology of skin diseases. (Louisville, 1878.) pp. 15, 8vo. (Reprint.) (224)

Young, W.—Zur Anatomie der ödematösen Haut. (Wien,) 1868. pp. 7, 1 plate, 8vo. (Reprint.) (S. 2)

ZOSTER.

Bertrand, E.—Du zona ou herpès traumatique. Paris, 1875. pp. 48, 4to. (T. 3)

Bulkley, L. D.—A clinical study of herpes zoster. (Phila., 1876.) pp. 10, 8vo. (Reprint.) (S. 17)

Friedrich, C. G.—Dissertatio inauguralis medica de zostere. Lipsiæ, 1825. pp. 32, 4to. (V. 2)

Hybord, A.—Du zona ophthalmique et des lésions oculaires qui s'y rattachent. Paris, 1872. pp. 160, illustrated, 8vo. (F. M. 1)

Kaposi, M.—Ein eigenthümlicher Fall von Herpes Zoster, u.s.w. (Wien, 1874.) pp. 10, 8vo. (Reprint.) (420)

——— Zoster recidivus. Nachtrag zu ein eigenthümlicher Fall von Herpes Zoster. (Wien, 1874.) pp. 7, 8vo. (Reprint.) (421)

——— Neuer Beitrag zur Lehre von Zoster. Zoster recidivus. (Wien, 1877.) pp. 8, 8vo. (Reprint.) (419)

Lücker, G.—Ueber den Herpes Zoster. Bonn, 1867. pp. 23, 8vo. (S. 27)

Nieubuur, M. J.—De zona, etc. Groningæ, 1849. pp. 36, 8vo. (S. 22)

Pacton, M.—Du zona ophthalmique. Paris, 1878. pp. 108, 8vo. (384)

Schwartz, F. A.—De zona serpiginosa. Halæ-Magdeburgicæ, 1745. pp. 24, 8vo. (S. 23)

Singer, M.—Herpes Zoster, entsprechend den Zweigen des dritten Astes von Nervus trigeminus. Wien, 1858. pp. 22, 8vo. (Reprint.) (S. 22)

Wyss, O.—Beitrag zur Kenntniss des Herpes Zoster. n.p., (1871.) pp. 33, 1 plate, 8vo. (S. 7)

LANE MEDICAL LIBRARY

To avoid fine, this book should be returned on
or before the date last stamped below.

AUG 24 1939

MAY 21 1954

APR [illegible]

~~NOV 25 1975~~

MAY 4 1983

[illegible]

77C P18

Pamphlets on skin diseases.

25888

NAME	DATE
Addis	AUG
[illegible]	
[illegible]	